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IDENTIFIERS *Interdependence

ABSTRACT

A sixth grade social studies curriculum provides a context for a comparative study of individuals and societies. Material is divided into 14 sections. An introduction (section 1) outlines course rationale and a proposed time schedule. Sections 2 through 5 contain objectives, activities, and resources for the study of geography, culture, government, and economy and technology. The remaining sections outline related social studies units required in California. Section 6 is a mini-unit on drug awareness. Section 7 consists of vocabulary and student background material for a camp experience in the San Bernardino Mountains. Sections 8 through 14 contain the following optional units to be used in the curriculum as time permits: adaptation, anthropology, technology, earth forces and geology, wildlife problems and protection, and the ecosystem. For each unit, teacher introductory material, student activities, and resources are provided. (LP)

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OUR WORLD, ITS DIVERSE PEOPLES

Sixth Grade Social Studies

Course Outline

Children Learning for Living

Rialto Unified School District
Rialto, California
1983

SO 015 724

INTRODUCTION

This unit is based on the belief that social studies is a living, breathing, changing subject necessary to an understanding of the world in which we live. Our world is growing smaller each year and survival of our planet may hinge on the awareness of its citizens. It is our hope that the concepts, learning tools, and thinking skills developed in this unit will help our students to become more successful citizens in today's world. With this in mind, sixth graders will learn more about the geography of the earth and the many diverse peoples who inhabit it. Emphasis will be placed on key concepts in geography, culture, government, economics, and technology. It is suggested that students and teacher explore these elements in at least two different culture groups. Using these concepts they will engage in a comparative study of individuals and societies. Students should begin to analyze the commonality of peoples and also recognize and respect the vast differences. Interdependence among peoples is a unifying theme throughout.

The course outline is designed to encompass specific concepts students should obtain in each of the above areas and also suggest possible approaches and activities the teacher may wish to use in implementing the curriculum.

It is noted that at sixth grade teachers must devote time to Outdoor Education, Science, and the Drug Education units. The committee suggests the following time guidelines:

Outdoor Education	4 weeks (including encampment)
Project D.A.R.C.	2 weeks
Science	8 weeks
Social Studies	22 weeks

It is recommended that the concepts in each section first be explored so that the student may gain a clear understanding of these tools. Conceptual knowledge may then be applied to analyze, compare and contrast two or more countries. For example, the teacher might provide instruction in geography concepts and then use these concepts to compare the geography of Iran and Tanzania.

Suggested activities for each concept are provided in each section. These suggestions are not intended to be comprehensive. Teachers are encouraged to add other activities, and to share these with each other and with the members of the committee.

The committee suggests that this course outline be used in conjunction with the textbook Our World Today, Social Studies: Scholastic.

The Environmental Education and Project D.A.R.C. required units are retained at the end of this course outline. Also included are several optional units which integrate some areas of the Science curriculum with Social Studies.

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GEOGRAPHY

1. Major areas of the earth are hemispheres, seven continents, and four oceans.
2. Each continent is made up of various land forms (mountains, valleys, plains).
3. Political divisions include countries, states, provinces, counties, and cities.
4. Latitude and longitude are used to locate places on a map.
5. Map legends and scale provide essential information for interpreting various types of maps (political, landform, elevation, weather).
6. Latitude, elevation, and earth tilt affect seasons and climate.
7. Countries can be compared on the basis of their geographic characteristics.
8. A country's geographic characteristics affect its development and culture.

Activities for Geography

1. Make relief maps using salt and flour.
2. Use games to extend vocabulary, such as crossword puzzles.
3. Use SRA Geography kits, if available.
4. Create a map of an imaginary land, illustrating knowledge of landforms, latitude, longitude, compass rose, map legends.
5. Determine a scale (such as ½" to 1') and draw a map of some familiar place (your living room, your classroom).
6. Use an atlas to plan a vacation trip. Determine how you would travel, how long the trip would take, what you would need to take along considering the climate.
7. Determine your specific location if you are at X degrees latitude and Y degrees longitude.
8. Find pictures in magazines or draw the landforms under study (delta, mountains, valleys).
9. Use outline maps (warehouse) to draw political divisions - countries, states.
10. Write letters to consulates of various countries requesting pictures, maps, and statistics about that country.
11. Write a story from the point of view of an astronaut looking back at earth from a space vehicle.
12. Invite a meteorologist (from Norton AFB perhaps) to talk to the class about the way landforms influence weather.
13. Make jig-saw puzzles by drawing or gluing a map on cardboard. Cut in puzzle shapes, place in box and give to another student to put together. Can be used to make a "treasure" map.
14. Illustrate hemispheres by cutting oranges into halves.
15. Develop an imaginary country. Draw a series of maps of this country, showing population, topography, political divisions, natural resources, rainfall, major industries. Then draw pictures to illustrate how the people of this country would live, dress, work, eat. Include some of the folk art that you would expect to find.

Geography

Films:

Alaskan Summer (C) 1979 15 min. 4-9

American Desert (C) 1981 16 min. 4-6

Climates of U.S. (C) 1980 12½ min. 4-6

Latitude, Longitude, and Time Zones (rev) (C) 1979 13 min. 4-9

Learning to Read Maps (C) 1979 12 min. K-6

Life in Mediterranean Lands, rev. (C) 1978 12 min. 7-12

Map Reading (C) 1981 16 min. 4-6

Panama Canal, rev. (C) 1978 11 min. 4-9

Filmstrips:

Coast Lines and Their Symbols 4-9 #543

Elements of a Map 4-9 #52

Flat Maps of a Round World 4-9 #184

Land Forms and Their Symbols 4-9 #544

Language of Maps and Globes 2-5 #3170c

Latitude, Longitude and Time 4-12 #80

Map Skills #2 4-6 #3185c

Map Studies 4-6 #2651c

Non-Irrigated Desert 4-9 #1456

Studying an Area Through Maps 4-9 #1549

Top of the World 4-12 #1517

Uplands and Plateaus 4-9 #96

Map of California: Uses of land over 5,000 ft. in elevation. 4-9 #1455

Map of California: Uses of land up to 5,000 ft. in elevation. 4-9 #1451

Using Common Maps 4-9 #53

Why the Seasons? 4-9 #1105

Books:

Bell, Neill. The book of where, or how to be naturally geographic. Yolla Bolly Press, 1982. (Student activities in geography)

Compton, Grant. What does a meteorologist do? Dodd, 1981.

Epstein, Samuel. First book of maps and globes. Watts, 1959.

Hackler, David. How maps and globes help us. Benefic Press, 1962.

Syrocki, B. What is weather? Benefic Press, 1961.

Atlases:

Goode, John Paul. Goode's school atlas. Rand McNally.

Goode, John Paul. Goode's world atlas: physical, political, and economic. Rand McNally.

Williamson, Lyn. First picture atlas. Warwick, 1980.

NOTE: See reference shelves in each school library for additional new atlases.

CULTURE

1. Culture is the social heritage of a people. It includes beliefs, language, values, arts, customs, and institutions.

2. Some cultures are unique and isolated while other cultures are composite. As people interact, they may exchange cultural beliefs with each other.

3. The cultural heritage of a nation influences its growth and development.

4. Language is a primary vehicle for transmission of culture.

5. Family structures differ in different societies.

6. Understanding the culture of other peoples enables greater understanding of one's own culture.

Culture Study Activities

1. Have each student make a family tree. Put student name or picture on the trunk, parents names (or pictures) immediately above, then grandparents and great-grandparents, if known. Place of birth of each ancestor can be added.

2. Develop a bulletin board using world map. Attach a flag on the country/location in which each student's family originated.

3. Invite exchange students from the high school or local colleges to speak to the class about their country.

4. Divide class into "countries" - two or more, as desired. Have each group research the arts, music, custom, costumes, and language. As a culmination, have "countries" visit each other and try to communicate with each other without the same language. Have each student write a story about how his/her life would be different if he or she moved to the other country.

5. Make a scrap book or bulletin board showing native dress of different countries.

6. Research and compare games and toys of different countries. Emphasize the similarities in games and toys that are developed in different periods in history and in different parts of the world.

7. Make a family coat-of-arms using symbols each student thinks best represents his/her family based on their origins.

8. Contact organizations such as International Youth Service for names of students in other countries as pen pals.

9. Use "Who Likes Animals?" activity to help illustrate the universality of feelings, interests, and concerns. This activity can be used, as noted, about many other topics (p.11).

10. Play "Human Bingo" (p. 17) to illustrate the interdependence of cultures. Also My Family and the World map activity (p. 16).

11. Make a bulletin board or scrap book of architectural styles of homes and buildings from different parts of the world.

12. Use District employees and other local people who have traveled in different parts of the world to show slides and tell about other cultures.

13. Ask IMC to develop a bibliography of books and periodicals about countries you are studying.

14. Write to sixth grade classes in other schools in the District which are studying countries other than the one you are studying. Compare cultures.

(cont.)

You might wish to develop a mini-United Nations with delegates from each country (class) who meet together to solve a problem.

15. Write poetry of different countries after studying these various forms.

16. Take an imaginary trip around the world. Plan each phase of the trip including obtaining a passport and deciding what to take. Consider what clothing you would need in different parts of the world. Consider how you would deal with various kinds of money.

17. Develop a slide presentation on different parts of the world using slides taken by class members or teachers in your school who have traveled.

WHO LIKES ANIMALS?

By David C. King

The two short stories and poem have to do with people's feelings about animals. One story is by the great Russian novelist, Turgenev; the other, by a 10-year old girl from India; the poem is a traditional Mexican verse of unknown origin. The point of this brief collection is simple and doesn't require a great deal of analysis: People throughout the world have special feelings about animals. The topic could have been houses, secret places, friendships, mothers - just about anything. By exposing students to common themes in artistic expression from various cultures, you will help them internalize the notion that all humans share common needs, interests, and concerns.

AREAS OF STUDY

Language Arts (Reading, poetry, creative writing)

Music)
Art) optional
Dance)

SUGGESTED TIME 1-2 class periods

OBJECTIVES

Students will

1. recognize that people in all cultures have special feelings about animals and pets;

2. describe a special experience of their own involving animals;

3. strengthen awareness of basic human commonalities.

TEACHING SUGGESTIONS

Simply reproduce the stories and poem for student reading or for reading aloud. Talk with the class about what the feelings are and point out that the readings come from 3 different countries. Ask volunteers to write their own stories or poems about special experiences they have had with wild animals or pets. You don't have to lean too hard on the goal of the lesson - that people everywhere share common, special feelings about animals; the students will grasp the idea readily enough. This will be especially true if you follow through with other stories from around the world that deal with other common themes.

Extending the Lesson: This simple but important idea is easily extended to other means of expressing feelings - art, sculpture, music, drama and dance.

THE SPARROW
by Ivan Turgenev - a famous Russian writer
who lived in the 19th century

I was returning home from a day's hunting, walking toward the house along a path in my garden. My dog was running ahead of me.

Suddenly, the dog slowed her pace and crept forward. She had caught the scent of game.

I looked down the path and saw a young sparrow. It had a streak of yellow near its beak and a bit of puff on its head. Clearly it had fallen out of its nest. (A strong wind was swaying the birch trees.) The tiny bird sat there, trying helplessly to flap its wings. But it was too young and the wings were of no use.

My dog was stealing closer when suddenly an older black-chested bird fell like a stone right in front of the dog's face. All its feathers were standing on end and it was uttering a desperate, pitiful chirp. It hopped once and then again in the direction of the dog's jaw.

The bird had thrown itself in front of the dog to shield its young one. But its own small body was trembling with terror. Its little voice was frenzied and hoarse, and it was numb with fright. The bird was sacrificing itself!

What a huge monster the dog must have seemed to the mother sparrow! Even so, it could not bear to stay on its high, safe perch in the tree. A force stronger than its will to remain alive made it hurl itself to the rescue.

The dog, named My Treasure, stopped still and then backed up. He, too, seemed to recognize this force.

I quickly called off the dog and we continued on our way. I was awed.

Yes, do not laugh. I was awed by that small, heroic bird, by its impulse of love.

Love, I felt more than ever, is stronger than death or the fear of death. Only through love is life sustained and nourished.

GOODBYE MR. CHIPS!*
By Kavita Kapur, age 10, India

Squirrels are lovely little creatures, as I have learnt from experience. It had always been my greatest wish to pick up a squirrel, but my wish seemed never to come true.

But the other day I was taking a walk alone in my garden when I heard a soft thud, and looking down I saw a baby squirrel had fallen out of a tree and was on the ground beside me. The little thing was too stunned to move, so I gently picked it up and carried it in. I quickly prepared a box with some soft cotton-wool inside, and placed the squirrel in it.

By this time my family came, and since we are all animal lovers we were greatly excited and happy. We watched over it like birds over their eggs, and soon the tiny ball of fur stirred. I dashed to the kitchen, warmed some milk and put some into a dropper. Unfortunately the first time we put it into the animal's nose!

At last the poor fellow, obviously tired and fed up of seeing us standing there helplessly, caught hold of the dropper and began to suck milk with great tranquility.

As days passed it grew disgustingly fat, but could still rush about at a remarkable pace. We christened it "Chippy."

Chippy, I am sorry to say, did not have good manners. I once woke up in the middle of the night to see Chippy scampering up and down my father who was asleep, peacefully unaware of what was happening. I tried in vain to catch the little fellow, but did not succeed. At last I lured Chippy into a trap by offering him bread soaked in milk which made his mouth water. As he came nearer I pounced on him and put him back in his box.

Every member of our family used to come home from school, office, etc. and enquire about Chippy. Even my father talked to him!

One day, I upset the sugar bowl and before I could say "Christopher Columbus" Chippy was on the tea-tray eating sugar! After this he got very spoilt for everyone fed him sugar.

I came home from school one day and could not find Chippy! I searched frantically and at last found him curled up, fast asleep, in my father's coat pocket.

I knew I was lucky to have him, but I had a feeling he was going to leave us and run away soon. I was right, for on coming home one day, I learnt that the "bird had flown."

I was not very unhappy for I knew that Chippy was supposed to be a wild, free animal. We went to have a look at his family tree, but there were so many squirrels there it was hard to tell which one was my very own Chippy. I then realized it was "Goodbye, Mr. Chips" forever.

*Shankar Pillai, Children's Book Trust, New Delhi, India

DON GATO*
Traditional Mexican rhyme

1. Oh, Senor Don Gato was a cat,
On a high red roof Don Gato sat.
He went there to read a letter,
meow, meow, meow,
Where the reading light was better
meow, meow, meow,
"Twas a love note for Don Gato!

2. "I adore you!" wrote the lady cat,
Who was fluffy, white, and nice and fat.
There was not a sweeter kitty,
meow, meow, meow,
In the country or the city,
meow, meow, meow,
And she said she'd wed Don Gato!

3. Oh, Don Gato jumped so happily
He fell off the roof and broke his knee,
Broke his ribs and all his whiskers,
meow, meow, meow,
And his little solar plexus,
meow, meow, meow,
"Ay caramba!" cried Don Gato!

4. Then the doctors all came on the run
Just to see if something could be done,
And they held a consultation,
meow, meow, meow,
About how to save their patient,
meow, meow, meow,
How to save Senor Don Gato!

5. But in spite of everything they tried
Poor Senor Don Gato up and died,
Oh, it wasn't very merry,
meow, meow, meow,
Going to the cemetary,
meow, meow, meow,
For the ending of Don Gato!

6. When the funeral passed the market square
Such a smell of fish was in the air,
Though his burial was slated,
meow, meow, meow,
He became reanimated,
meow, meow, meow,
He came back to life, Don Gato!

*Reprinted from Beatrice Landeck, Learn to Read to Learn, N.Y.: David McKay & Co., 1975, p. 52-53.

MAP ACTIVITY

Reaching Out

1. If your family has a car, put an orange dot on the country where it was made.

2. Does your family have a TV, radio or calculator? Choose ONE of these and put a green dot on the country where it was made.

3. Choose an article of clothing you are wearing and put a yellow dot on the country where it was made.

4. Think of a restaurant your family has been to recently and put a pink dot on the country it represents.

5. If you have lived in a country besides the United States, identify its location with a big blue dot.

HUMAN BINGO

Directions: Ask other members of the group to answer the questions below and sign their names in the appropriate space. NOTE: NO ONE MAY SIGN YOUR CARD TWICE. BINGO may be down, across, or diagonal.

Whose family drives a foreign car?	Who can name 5 countries in Latin America?	Who has a camera made in another country?	Who has been to either Canada or Mexico?	Who is wearing something made in another country?
Who speaks and understands another language?	Who has been to a Japanese restaurant?	Who has a Spanish surname?	Who has an Asian surname?	Who plays soccer?
Who likes tacos?	Who saw "Shogun" on TV?	PUT YOUR NAME HERE	Who can name three world leaders?	Who is a native Californian?
Who has a bike or TV made in another country?	Who has travelled overseas?	Who has relatives in another country?	Who has or has had a relative who has served in the military overseas?	Who can name 5 countries in Africa?
Who has taken a course about another part of the world?	Who can name the U.S. Secretary of State?	Who can name five towns or cities in California that have Spanish names?	Who can name a music group or band that comes from another country?	Whose parents or grandparents were born in another country?

Culture

Films:

A-M-E-R-I-C-A-N-S - Ethnicity, backgrounds, prejudice	(C) 12 min.	I
Food - History of how man obtains food	(C) 11 min.	P-I
Shelter (3rd Ed.) - History of housing & community development	(C) 11 min.	I
Transportation: A Basic Need - How transportation meets peoples needs. Progress & development.	(C) 12 min.	I
Clothing Around The World	(C) 15 min.	I
Houses Have History	(C) 15 min.	I-J
Kishan Who Dreamed of Flying - East India School Boy - insights into his culture	(C) 12½ min.	I
Land of Immigrants (revised) - influence of various cultures on U.S.	(C) 23 min.	I-J
Mexico in The 70's - A City Family	(C) 18 min.	I-J
Economic Geography - 3 Families in Different Environments	(C) 15 min.	P-I
Food Around the World	(C) 15 min.	I
Food, Clothing, Shelter in 3 Environments	(C) 16 min.	I
Homes Around the World (Dist. lease film)	(C) 10 min.	P-I
Israeli Boy - Life on a Kibbutz	(C) 17 min.	I
Our Productive Industry	(C) 10 min.	J
Our Productive Resources	(C) 10 min.	I-J
Clothing	(C) 11 min.	4-6
Dancing Lion: An African Folk Tale	(C) 12 min.	4-6
Indian Crafts: Hopi, Navaho, Iroquois	(C) 11 min.	4-6

Loon's Necklace (C) 11 min. K-9
- About Indians of British Columbia

Yanis & his Dream (C) 19½ min. K-9
- Greek peasant boy

Filmstrips:

African Folktales K-6 1815R

Artistic Revolution in Mexico 4-9 823

Arts and Crafts of Mexico 4-9 825

Children's Songs of Mexico 4-9 1396R

Children and Pets of Many Lands K-6 2488R

Christmas Around the World K-6 956R

Cultural Heritage, A (China) 2-7 3149C

Education and Culture of China 4-12 1821

Folk Songs of Latin America 4-9 1397R

Folk Songs of Our Pacific Neighbors 4-9 851R

Folk Stories Vol. I & II 2096R & 2097R

Four Families of Japan 4-6 2321R

France: Country and its People 6-12 1435R

Glory of Paris 7-12 1904

Greece - Cradle of Culture 6-12 343

Gung Hay Fat Choy: Chinese New Year Celebration K-12 2982C

Haiku: The Hidden Glimmering 4-12 2291C

Heritage Stories 4-9 2615C

How People live in Stavanger, Norway and Turku, Finland 4-6 2453R

How We Got Our Christmas Customs 4-12 1927R

Japanese Life and Tradition 4-6 467

Japanese and Chinese Art 7-12 69

Japanese Series (excellent) 2275R and C

Latin America: A Changing World of Lands and People 5-12 2379R

Many Americans, The Set I 2898C

Many Americans, The Set II 2899C

Mexico and the Mexicans 5-10 2407C

Minorities Have Made America Great 4-12 2144R
(Negroes, Jews, Italians, Germans, Irish)

New Friends from Distant Lands: The Culture We Share 4-8 2389R

New Japan, The 4-12 2297R

Other People, Places and Things 3-8 2470C

Our Heritage of American Folk Music 4-12 1529R

Pacific Islands: Young People and their Families 3-6 2467R

People of China K-6 2652C

People of India K-6 2654C

Pocketful of Poetry, A 4-6 2390R

Story of Americas People Today 4-9 2248R

Two German Families 4-9 3019C

Two Spanish Towns 4-9 1490

Unlearning "Indian" Stereotypes 2-6 2981C

Study Prints:

Interaction of Man and his Environment (set of paired inquiry pictures and teacher's manual)

a. Near Water
b. At Different Elevations
c. In Extreme Climates
d. Change (natural and man-made)

Interaction of Man and his Resources (set of paired inquiry pictures and teacher's manual)

a. Basic Needs
b. Sources of Materials and Power
c. Waste and Conservation

Recordings:

Anthology of Negro Poets in the USA - 200 years 33-294

Around the World Stories Albums 5-9 33-190 - 33-193

Canadian Folk Dance 78-187

Christmas Around the World 33-46

Christmas in France 33-250

Christmas in Italy 33-1013

Favorite American Poems 33-688

Folk Music of Canada 78-275

Folk Songs of Africa 33-50

Folk Songs of Many Lands 78-42

Folk Songs of Many People 78-170

From Singing Games to Folk Dancing Albums 1-6 33-868 - 33-873

Latin American Children's Game Songs 33-901

Reflections on a Gift of Watermelon Pickle...And Other Modern Verse 33-756

Songs and Dances of Mexico 33-1010

Cassette Recordings:

Folk Tales of China and Japan 161-C

Poetry to Hear, Read, Write and Love 164-C

Tshindoa and Other African Folk Tales 138-C

Books:

Aardema, V. Tales from the story hat. Coward, 1960.

Aesop Fables. Golden, 1965.

Anderson, L. Immigration. Watts, 1981.

Araki, C. Origami in the classroom. Tuttle, 1965.

Arnott, K. African Myths and legends. Walck, 1963.

Baker, A. Talking Tree; fairy tales from 15 islands. Lippincott, 1955.

Barbeau, C.M. The Golden Phoenix and other French Canadian fairy tales. Walck, 1958.

Behn, H. Cricket songs, Japanese Haiku. Harcourt, 1964.

Bleeker, S. The Ibo of Biafra. Morrow, 1969.

Bleeker, S. The Zulu of South Africa. Morrow, 1970.

Botkin, B.A. Illustrated book of American folklore. Grossett, 1958.

Brenner, A. Boy who could do anything and other Mexican folk tales. Scott, 1942.

Brock, V. Pinatas. Abingdon, 1966.

Buckley, P. Oklo of Nigeria. Simon & Schuster, 1962.

Craven, T. Rainbow Book of Art. World, 1956.

Dietz, B.W. Musical instruments of Africa. Day, 1965.

Doblier, L. National holidays around the world. Fleet, 1968.

Duvoisin, R.A. Three sneezes and other Swiss tales. Knopf, 1941.

Feagles, A. He who saw everything; the epic of Gilgamesh. Young, Scott, 1966.

Freedman, R. Immigrant kids. Dutton, 1980.

Gidal, S. My village in India. Pantheon, 1956.

Books:

Gidal, S. My village in Israel. Pantheon, 1959.

Gidal, S. My village in Thailand. Pantheon, 1970.

Gidal, S. My village in Morocco. Pantheon, 1964.

Gidal, S. Sons of the desert. Pantheon, 1960.

Gillham, C.E. Beyond the clapping mountains; Eskimo stories from Alaska. Macmillan, 1943.

Gilstrap, R. The Sultan's fool and other North African tales. Holt, 1958.

Glubok, S. Art of Africa. Harper, 1965.

Glubok, S. Art of Ancient Egypt. Atheneum, 1962.

Glubok, S. Art of Ancient Greece. Atheneum, 1963.

Glubok, S. Art of the Eskimo. Harper, 1963.

Glubok, S. Art of the Lands of the Bible. Atheneum, 1963.

Glubok, S. Art of the North American Indians. Harper, 1964.

Grossman, R. The Italians in America. Lerner, 1966.

Hattori, R. Japanese folk-songs. Japan Times, 1950.

Henderson, H.G. An introduction to Haiku. Doubleday, 1958.

Henius, F. Stories from the Americas. Scribner, 1944.

Hillbrand, P.V. The Swedes in America. Lerner, 1966.

Hillyer, V.M. Child's history of Art. Appleton, 1951.

Hunt, K. Masks and mask makers. Abingdon, 1961.

Jackson, K. Homes around the world. Silver, 1957.

Johnson, J.E. The Irish in America. Lerner, 1966.

Kaula, E.M. The Bantu Africans. Watts, 1968.

Kelsey, A. Once the Hodja. (Folklore-Turkey) Longmans, 1943.

Kunz, V.B. The French in America. Lerner, 1966.

Larson, P. Boy of Dahomey. Dodd, 1970.

Leather, N.L. The Japanese in America. Lerner, 1967.

Books:

Lewis, R. The moment of wonder; a collection of Chinese and Japanese poetry. Dial, 1964.

Lewis, R. In a spring garden. (Haiku) Dial, 1965.

Lum, P. Fairy tales of China. Dutton, 1959.

Marry, R.G. Beyond the high hills. World, 1961.

McAlpine, H. Japanese tales and legends. Walck, 1959.

Meltzer, M. All times, all peoples; a world history of slavery. Harper, 1980.

Mosel, A. Tikkitikki tembo. (Folklore-China) Holt, 1968.

Muller, G.F. Swiss-Alpine folk-tales. Walck, 1959.

Neurath, M. They lived like this in ancient Peru. Watts, 1966.

Newman, S.P. Folk tales of Latin America. Bobbs, 1962.

O'Donnell, J.E. Japanese folk tales. Caxton, 1958.

Pine, T. The Egyptians knew. McGraw, 1964.

Pitt, G. Scandinavian fairy tales. Golden, 1962.

Robinson, C.A. The first book on ancient Rome. Watts, 1964.

Ross, P.F. Made in Mexico. Knopf, 1952.

Rudolf, M. The brave soldiers and a dozen devils. (Folklore-Latvia) Seabury, 1970.

Ruskin, A. The Pantheon story of Art for young people. Pantheon, 1964.

Sakada, F. Japanese children's favorite stories. Tuttle, 1958.

Sherlock, P.M. Anansi, the spider man. Crowell, 1954.

Spencer, C. Made in Japan. Knopf, 1963.

Sutcliff, R. Beowulf. Dutton, 1961.

Uchida, Y. Dancing kettle and other Japanese folk tales. Harcourt, 1949.

United Nation's Women's Guild. Ride with the Sun; an anthology of folk tales and stories from the United Nations. McGraw, 1955.

Walker, R.L. Ancient China and its influence in modern times. Watts, 1969.

Books:

Walker, B.K. Hilili and Dilili (Folklore-Turkey) Follett, 1965.

Walker, B.K. The warrior and the princess and other South American fairy tales. Golden, 1962.

Warren, R. The first book of the Arab world. Watts, 1963.

White, A.T. Aladdin and the wonderful lamp. (Folklore-Arabia) Random, 1959.

Wilson, B.K. Fairy tales of Germany. Dutton, 1959.

Wilson, B.K. Fairy tales of Ireland. Dutton, 1959.

Wilson, B.K. Fairy tales of Russia. Dutton, 1959.

Yama, O-E. O-E Yama; the story of General Raiko and the ogres of O-E Yama. Fuji, 1959.

Yasuda, Y. Old tales of Japan. Tuttle, 1956.

Young, M.B. The first book of American Negroes. Watts, 1966.

Yurcheno, H. A fiesta of folk songs, from Spain and Latin America. Putnam, 1967.

YWCA of Tokyo. Japanese Etiquette. Tuttle, 1955.

Zemach, M. It could always be worse, a Yiddish folk tale. Farrar, 1976.

GOVERNMENT

1. All countries need some form of government.
2. There are many forms of government, and each is based on a set of beliefs. Some of these forms are Democracy, Socialism, and Communism.
3. Governments enact and enforce rules and procedures.
4. Leaders of each type of government are known by different titles.
5. Government responsibility may be shared among various levels - state, local, national.
6. Citizen's voice and responsibilities vary under different forms of government.
7. Government may reflect many of a country's cultural values.
8. Government plays an important part in people's daily lives, through taxes, welfare programs, defense, education, law enforcement, and other agencies.
9. Political systems and governments are not static institutions - they change.
10. Countries may join together to help each other, as in the United Nations.

Activities for Study of Government

1. Using a map as background, develop a bulletin board of current events about government news in countries around the world. You may wish to focus on particular countries.

2. If possible, ask a recent immigrant to describe life and government in the country from which he/she came. Contrast this with government services in the United States.

3. Set up a government for a moon colony. Compare the way a person from Sweden, for example, would set this up with the way a person from Germany or Spain would set it up.

4. Compare specific government services, such as welfare, in various countries.

5. Divide class into "countries," one a highly developed technical economy and one a third world country. Have each group develop a list of problems that government would need to consider.

6. Develop a Constitution and Bill of Rights (and responsibilities) for the classroom. Might do a variety of these for different types of government.

7. Simulation activities can be done in a variety of ways: role-playing, puppetry, drama, panel discussion. Problems might include building a dam, changing property zoning, putting a freeway through a residential area.

8. Chart - Power - who has it, how they got it, how they keep it.
   Citizen - rights and responsibilities.
   Change - how it takes place within the system; why people change the system.
   Compare in different countries.

9. Write biographies (or write them as autobiographies) of world leaders. Present orally in class as if you were that person.

10. Write letters as if you were a world leader -
    Examples: Margaret Thatcher to President Reagan
    Indira Ghandi to Andropov

11. Write questions (tests) on government which can be exchanged with students in other classes/schools.

12. Have a "Meeting of the Minds" program, with students enacting famous leaders: Napolean, Ghandi, and Czar Nicholas, for example. Whole classes could research these personalities and one could represent the class in a "meeting."

13. Compare and contrast evolutionary change in government as opposed to revolutionary change.

SUGGESTED ALTERNATIVE OR CONCEPT REINFORCING ACTIVITIES:

1. Take a representative group of students to a City Council meeting and/or School Board meeting for reporting back to the class.

2. Invite a member of the City Council and/or city government (i.e. water department) to visit the class and present the duties and responsibilities of the position.

3. Students select a person involved in local government to interview and report back to class.

4. Write to neighboring communities of varying sizes to determine the form of local government used by their area.

5. Make a bulletin board display of current leaders at the national, state and local levels, including picture and thumbnail biography.

6. Visit a local polling place. Demonstrate how a ballot is marked as well as how they are counted. Include steps for getting ballots.

7. Organize an intermediate or 6th grade student council.

8. Develop a mock government in class that would effectively meet the needs of the student.

9. Have students develop a Bill of Rights or Constitution.

10. Have students begin an initiative to change something on campus.

11. Develop a case to be tried within a mock court in the class or have a debate on some of the following:

    a. Acme Builders are being sued for building in an area that is highly prone to earthquakes.

    b. Super Car Inc. is being sued for producing a vehicle that doesn't meet the requirements of the State Environmental Pollution Agency.

    c. A meteorite has landed in Utah. The valuable specimen is being fought over. Utah claims jurisdiction, the Federal government and foreign countries also want it for study.

    d. Gulp Oil has dumped 30,000 gallons of oil off the coast of Florida.

    e. The farmers of the San Joaquin Valley are suing Los Angeles. The ozone level has affected the average rainfall and crops are being lost.

Government

Films:

My Government U.S.A. (C) 10 min. 1966 4-9

How We Elect Our Representatives (C) 11 min. 1972 4-12

Of This We Are Proud (C) 16 min. 1972 4-12

Filmstrips:

Accomplishments of the U.N. 4-12 #507

Amendments of the Constitution 4-9 #448

Cabinet, The 4-9 #454

Citizen and His Courts 4-6 #638

Congress and Its Power 4-9 #455

Congress - Legislative Branch 4-9 #451

Constitution: The Historic Background 4-9 #458

Crime and Justice 4-6 #2399R

Executive Department - The President 4-9 #450

Freedom: What it's all About 2-6 #2425R

How Foreigners Became Citizens 4-6 #639

How Our Laws Are Made 4-6 #627

How We Elect Our President 4-6 #640

How We Govern Our Cities 4-6 #1322

Judicial Department and the System of Checks and Balances 4-9 #453

Law: Who Needs It? 4-8 #3032C

Making Democracy Work 4-9 #49

Our Heritage of Freedom 4-9 #45

Our President 4-6 #631

Powers of the President 4-6 #2403R

President's Cabinet 4-6 #630

Filmstrips:

To Combine Our Efforts (U.N.) 7-12 #226

U.N. - A World Peace Organization 4-12 #441

United Nations 7-12 #1475

United Nations at Work 8-12 #230

What is Federal Government? 3-6 #3040C

What is Local Government? 3-6 #3038C

What is State Government? 3-6 #3039C

You - A Citizen 3-7 #2963C

Young Citizen 4-6 #628

Your Federal Constitution 7-12 #733

Books:

Acheson, Patricia C. Our federal government. Dodd, 1969.

Breetveld, Jim. Getting to know United Nations crusaders. Coward, 1961.

Brindze, Ruth. All about courts and the law. Random, 1964.

Carroll, Sidney. You be the judge. Lathrop, 1971.

Cochrane, Joanna. Let's go to the United Nations headquarters. Putnam, 1958.

Coy, Harold. Congress. Watts, 1981.

Coy, Harold. The Supreme Court. Watts, 1981.

Eichner, James. Courts of law. Watts, 1969.

Eichner, James. The first book of local government. Watts, 1964.

Gay, Kathryn. Meet the mayor of your city. Hawthorn, 1967.

Gilfond, Henry. The executive branch of the U.S. Government. Watts, 1981.

Gray, Lee Learner. How we choose a president. St. Martins, 1968.

Johnson, Gerald W. The Cabinet. Morrow, 1966.

Johnson, Gerald W. Communism: an American's view. Morrow, 1964.

Johnson, Gerald W. The Congress. Morrow, 1962.

Books:

Johnson, Gerald W. The Presidency. Morrow, 1962.

Johnson, Gerald W. The Supreme Court. Morrow, 1962.

Lavin, David. What does a congressman do? Dodd, 1965.

Lewis, Anthony. The Supreme Court and how it works. Random House, 1966.

Lindop, Edmund. The first book of elections. Watts, 1968.

Paradis, Adrian. Government in action: how our federal government works. Messner, 1965.

Schwartz, Alvin. The city and its people. Dutton, 1967.

Williams, Barbara. I know a mayor. Putnam, 1967.

ECONOMICS AND TECHNOLOGY

1. All peoples share common needs which are met in different ways.

2. When resources are scarce, it may be necessary to compete for their availability.

3. One way people meet needs and obtain scarce resources is through exchange of goods, services, and ideas. Money is one vehicle for exchange.

4. The value of money differs from country to country.

5. The worth of goods is based on supply and demand.

6. Technology is the ideas, skills, and tools people develop to solve practical problems. Technology enables peoples to grow economically.

7. Economic strength is dependent on the natural resources and technology of a country. These are influenced by its geography and culture.

8. Countries are interdependent economically.

9. Economic strength enables a country to have power in the world, and it sometimes causes conflict.

10. Technological and economic advances have both positive and negative effects on the environment.

Suggested Economics Activities

1. Decision making grid exercise (p. 34) - Can use a real problem (how to use one-hour of free time, lunch choices), or an historical problem (should U.S. break away from Great Britain). Establish alternatives, criteria for each problem. See film We Decide, Economics Education, Cal State, San Bernardino.

2. MacDonald's Action Pack Market activity.

3. Use activities from Elementary Economist, which is available monthly in each elementary school.

4. Crocker Bank - learning allowance kit. Good for keeping accounts, subtraction.

5. Ump's Fwat kit - An Annual Report
   Why we use money - more convenient than barter - Differences in money in different countries - Available through Center for Economic Education, Cal State.

6. Rubber chicken - clam bucks.
   Market supply and demand
   - good charts, graphs, multiplication
   - demand curve
   - advertising campaign

7. Economics Literacy Council of California

ALTERNATIVES	CRITERIA				

THE WORLD'S A WEALTHY PLACE
(But Who's Got the Bread?)

This chart shows the population and gross national products (GNP)* of the world's geographic regions. Look at the figures which indicate the percentage of world population inhabiting each region and its percentage of the world's GNP. Circle any region that has less than it needs. Which regions are producing more wealth than they need to comfortably support their population?

Region	Millions of People	% of World Population	1976 Per Capita GNP	% of World GNP in 1976
Africa	436	.10	$ 440	.01
Asia	2331	.54	$1461	.05
East Asia	1122	.26	900	.03
Southeast Asia	330	.08	341	.01
South Asia	879	.20	220	.006
Latin America	343	.08	$4550	.15
Caribbean	28	.01	1060	.035
Central America	87	.02	1000	.035
Temperate S. America	40	.01	1400	.04
Tropical S. America	188	.04	1090	.035
Middle East	92	.02	$1730	.05
The "West"	1119	.26	$24,710	.74
Europe	480	.11	4420	.13
Japan	114	.03	4910	.15
North America	242	.06	7890	.24
Oceania	22	.01	4730	.14
USSR	261	.06	2760	.08
Totals	4321	100%	$32,891	100%

* GNP A country's gross national product is the sum total of the goods and services it produces in any given year.

Source: "1978 World Population Data Sheet," Centre for World Development Education, London

WHO'S GOT THE BREAD?

1% for Africa
5% for Asia
15% for Latin America
5% for Middle East
74% for the Industrialized "West"

How many students should represent each region

In a Group	Africa (10%)	Asia (54%)	Latin America (8%)	Mid East (2%)	West (26%)
of 30	3	16	2	1	8
of 40	4	22	3	1	10
of 50	5	27	4	1	13
of 60	6	32	5	1	16
of 70	7	38	6	1	18

"THE GLOBAL APPLE"

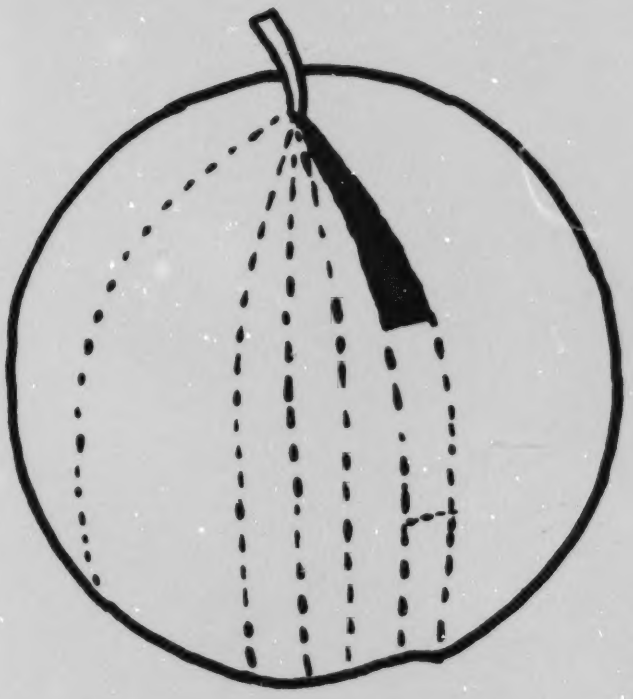
Take one apple to represent the globe. Cut out ¼ to represent the land area of the globe.

Take half of this fourth to represent land that is inhabited by humans.

Divide this into four pieces. One piece (1/32) represents the land used to produce food and clothing for the globe's people.

Take one third of this little piece to represent the food and clothing consumed by the US with 6% of the population.

See the remaining 2/3 which is used by 94% of the globe's people.



Economics

Films:

Mexico: A Changing Land (C) 22 min. 1980 4-6

Polar Regions: Hunters and Herders (C) 16½ min. 1978 4-6

Filmstrips:

Call It Wishing (Economics Part 2) 3-6 2923C

Choices and Values K-6 2383R

Concerning Young Consumers 4-8 2585C

Consumer Education: A guide for Young People 2-6 2994C

Consumer Education: The Price Is Right - Or Is It? 3-6 2300R

Economics and You 4-6 2401R

Getting and Spending (Economics Part I) 3-6 2922C

Knowing America (Filmstrips #A and #B) 4-9 2469C

Learning About Money 4-6 2523C

Nickels, Dimes and Dollars 3-6 2649C

Problems for Young Consumers 3-6 2338 (Boxed)

Too Many People? The Population Explosion 4-6 2405R

Why We Work 4-9 2925C

Books:

Elkin, Benjamin. The true book of money. Childrens Press, 1960.

Gay, Kathryn. Money isn't everything. Delacorte Press, 1967.

Hine, Al. Money around the world. Harcourt, 1963.

Maher, John E. Ideas about choosing. Watts, 1969.

Maher, John E. Learning about why we must choose. Watts, 1970.

Russell, Solveig. From barter to gold. Rand McNally. 1961.

PROJECT DARC
DRUG ABUSE

The Choice is Yours has been developed for use with sixth grade students as part of the Project DARC program. This booklet is intended to facilitate classroom discussion about the problems faced by young people today. It emphasizes that ignoring the drug problem is inappropriate. Drugs are available, and powerful peer pressure is often brought to bear. As it becomes increasingly apparent that cutting off the supply is impossible, it is clear that the school's contribution can best be made in the area of positive self-concept and informed decision making.

It is suggested that the book be used in the following ways:

1. Read the book together in class.
2. Dramatize the book by selecting students to read dialogue of the different characters.
3. Color the pictures if desired.

Accompanying the book is a packet of instructional materials. These include introductory materials, reinforcement activities, and assessment tools.

Vocabulary should be introduced and discussed prior to reading the booklet.

Stories have been designed to illustrate parts of the booklet. The stories are in a play script form. Select students to read the parts and discuss alternative choices.

Reinforcing activities include crossword puzzles, word searches and a maze. These are designed to reinforce concepts.

A brief assessment quiz follows each significant part of the booklet and will help to determine mastery of terms and concepts.

This booklet is not intended as an entire drug abuse program. It is hoped that it will motivate dialogue between teacher and learner.

PROJECT DARC
DRUG ABUSE

SUGGESTED ALTERNATIVE OR CONCEPT REINFORCING ACTIVITIES:

1. Drug abuse is essentially a peer pressure problem. Use debates, role playing or any other method which will create peer pressure situations.

2. See "Exercise in Dimensions of Cooperation" in the Coronado Plan.

3. Field trips to drug manufacturing companies, Patton State Hospital, should add to the program.

4. Use simulation games. Some may be available from the IMC.

5. In Section 6 role playing may be useful to create the drama intended. It would be advisable to use 10 of the most popular kids in the class as actors.

FILMS: (County)

Drugs - Use or Abuse (C) 11 min. I

Drugs Are Like That (C) 17 min. I

Easy Way Out (C) 8 min. I-J

*Marijuana - The Great Escape (C) 20 min. J-C

*Narcotics - The Inside Story (C) 12 min. J-H

What Do Drugs Do? (C) 11 min. I

*NOTE: Some of these films will require the signature of the principal as they are for junior high level students.

FILMSTRIPS:

Drug Abuse: Who needs it? Friend or Foe? K-9 2804C

Alcohol - Most Abused Drug 4-6 2400R

I Never Looked At It That Way Before (smoking and drinking) 7-12 1303R

I'll Choose the High Road (smoking) 6-12 2085R

Smoking and Children 4-8 2307R

To Smoke or Not to Smoke 6-12 2084R

Resource Books:

Health and Growth - Level 6
pages 173-183 briefly cover most of the drug abuse areas

For further information, use the Impact + 2 materials, Teacher's Guide to Coronado Plan for Preventive Drug Abuse Education, and Drug Abuse - A Source Book and Guide for Teachers.

PRE-CAMP

THE ENVIRONMENT OF THE SAN BERNARDINO MOUNTAINS

I. Definitions

A. Conservation
B. Ecology
C. Balance of Nature
D. Adaptation
E. Food Chain
F. Water Table
G. Watershed
H. Erosion
I. Parasite
J. Symbiosis
K. Photosynthesis
L. Lichen
M. Moss
N. Rain Shadow
O. Fire Break
P. Evergreen
Q. Deciduous
R. Species
S. Water Cycle (illustrate)

II. There are many kinds of plants and trees which are native to the San Bernardino Mountains. For each of the following plants and trees, write a description. NOTE: Be sure that you answer these questions: Is it an evergreen or deciduous? (trees only) Does it have needles? (trees only) If it has needles, how many are there to a cluster? What is the bark like? What are the needles or leaves like? What other things can you tell about the plant or tree?

A. Trees

1. Yellow Pine/Ponderosa Pine
2. White Pine/Sugar Pine
3. Jeffery Pine
4. Incense Cedar
5. Redwood
6. Black Oak
7. California Live Oak
8. White Fir

B. Plants

1. Manzanita
2. Bracken Fern
3. Sword Fern
4. Moss
5. Lichen
6. Fungus

C. Describe the major parts of the tree trunk.

III. Describe and give examples of how the following helping and killing relationships work.

A. A Parasitic relationship

B. A Symbiotic relationship

NOTE: You may give as many examples as you would like but be sure to give at least one example that you will find in the San Bernardino Mountains.

IV. Describe and illustrate how each of the following rocks are formed and used.

A. Igneous

B. Metamorphic

C. Sedimentary

V. Describe the causes, results and methods of prevention for each of the four major types of erosion.

A. Water

B. Glacier

C. Wind

D. Root

VI. There are many kinds of insects in the forest. Describe each of the following insects and tell how they help and damage the forest.

A. Western Pine Beetle

B. Engraver Beetle

C. Termite

D. Carpenter Ant

Pre-Camp

FILMS:

A Stream Environment (C) 9 min. 4-9

*Boomsville (C) 11 min. 7-12

California - Geography, Weather, Water (C) 20 min. 4-9

Earthworms (C) 11 min. K-9

Ecology - The Relationship of Plants & Animals to their Environment (C) 22 min. 4-12

EE-YI-EE-YI-OH (C) 11 min. 4-9

How to Study Ecology - A First Film (C) 11 min. 4-9

*Life Cycle of a Flowering Plant - Meiosis (C) 7 min. 7-12

*Life Cycle of a Flowering Plant - Mitosis (C) 11 min. 7-12

*Life Cycle of a Flowering Plant - Plant Cell & Male & Female Flower Parts (C) 11 min. 7-12

Life in the Ocean (C) 16 min. 4-9

Life Story of the Crayfish (C) 10 min. 4-9

Life Story of the Toad (C) 10 min. 4-9

Mountains, The (C) 14 min. K-6

*Nature Has an Answer (C) 18 min. 7-12

Our Endangered Environment - Air (C) 17 min. 4-9

Our Endangered Environment - Soil (C) 17 min. 4-9

Swimming Hole (C) 11 min. 4-9

Symbiosis (C) 10 min. 7-12

The Environment - Everything around us (C) 13 min. 4-6

*The Eternal Forest (C) 21 min. 7-12

*The Garbage Explosion (C) 16 min. 7-12

*The Nature of Life - Living Things Interact (C) 12 min. 7-12

FILMS:

What Do They Eat? (C) 5 min. K-6

What Ecologists Do (C) 16 min. 4-9

*NOTE: Principals signature required to order beyond grade level.

FILMSTRIPS:

Air 4-9 1995

California Contrast: Mt. Whitney to Death Valley 7-12 2498

California's Physical Environment: Location, Landforms, Underlying Rocks, Minerals 7-12 1834

Exploring Ecology 4-12 2524C

Forests 4-9 1994

Introduction to Ecology 4-9 1626

John Muir: Conservation 3-9 3132C

Learning About Conservation 4-9 2015R

Let's Explore a Stream 4-9 1933

Mountains of California 3-6 1017

Non-Irrigated Desert 4-9 1456

Our Wild Friends: It's Not Too Late To Care 4-8 3142C

Rivers of Water & Ice 4-9 745

Soil is Soil...Isn't It? 4-8 2814C

Southern Bald Eagle: An American Symbol May Perish 4-8 3143C

Story of Mountains 4-12 1168

Story of Rivers 4-12 1169

Uses of Land Over 5,000 ft. in Elevation (Map of Calif.) 4-9 1455

Water Resources of California 3-6 1013

Weather in the Wilderness 5-8 2781C

We Care About Eagles 4-12 3190C

Work of Ground Water 4-9 736

Work of Internal Forces 4-9 739

Work of Running Water 4-9 734

Work of Snow & Ice 4-9 738

Work of the Wind 4-9 735

World of Endangered Wildlife 4-12 2398C

BOOKS:

Archer, S.G. Rain, Rivers, and Reservoirs.

Atwater, M. Forest rangers.

Bauer, H. Water: riches and ruin.

Booth, E. Western bird guide for youth.

Brown, V. California wildlife region.

Brown, V. Handbook of California birds.

Brown, V. Rocks and minerals of California.

Brown, V. Sierra Nevadan wildlife region.

Colby, C. Fish and wildlife.

Colby, C. Park Ranger.

Colby, C. Soilsavers.

Colby, C. Tall timber.

Carter, K. Trees and how they grow.

Cormack, M. First book of trees.

Crittenden, M. Trees of the West.

Darby, G. What is a tree?

DeLisle, H. Wildlife of the Southern California mountains.

DeLisle, H. Common plants of Southern California.

Friskey, M. True book of birds we know.

Gates, R. True book of conservation.

BOOKS:

Guilcher, J.M. A tree is born.

Goetz, D. Rivers.

Green, I. Water: our most valuable natural resource.

Green, I. Wildlife in danger.

Hirsch, S. The living community.

Jaspersohn, W. How the forest grew.

Huxley, J.S. Wonderful world of life.

Lauber, P. Seeds; pop, stick, glide.

Lavine, A. Water since the world began.

Laycock, G. America's endangered wildlife.

Laycock, G. Wild refuge.

Lewis, A. Clean the air.

McCoy, J. Nature sleuths.

Mannheim, G. Touch me, touch me not.

Mayall, R. Sky observer's guide.

Moore, A. The friendly forest.

Newton, J.R. Forest log.

Overbeck, C. How seeds travel.

Pettit, T. A guide to nature projects.

Podendorf, I. A new true book; Trees.

Posell, E. True book of deserts.

Raskin, E. The fantastic cactus.

Russell, S. About saving wild life for tomorrow.

Russell, S. Trees for tomorrow.

Saunders, J. Golden book of nature crafts.

Shannon, T. About the land, the rain and us.

BOOKS:

Shuttlesworth, D. Clean air, sparkling water.

Smith, F. First book of conservation.

Stebbins, R. Field guide to western reptiles and amphibians.

Sterling, D. Story of mosses, ferns, and mushrooms.

Stewart, A. What's a wilderness worth.

Swain, S. Insects in their world.

Tally, M. To save the soil.

Valens, E. Wildfire.

Webber, I.E. Thanks to trees.

Werner, J. True story of Smokey the Bear.

Williams, L. A Dipper Full of Stars.

Wyler, R. Golden book of astronomy.

Zim, H.S. Trees; a guide to familiar American trees.

The following pages contain
optional units which
may be added
as time
permits.

ADAPTATION

I. Define the following terms:

A. Evolution

B. Genetics

C. Mutation

D. Natural selection

E. Chromosome

F. Genes

G. Adaptation

H. Survival value

I. Heredity

II. Genetics

A. Describe, through words and diagrams:

1. How chromosomes are structured
2. What genes are and their purpose in the formation of life
3. How genes determine traits in the physical offspring
4. What dominant and recessive genes are and their importance to physical characteristics
5. How mutation affects physical structure

III. Adaptation

A. Answer the following questions using your knowledge of genetics

1. If life started in the sea, how do you think land animals occurred?
2. What is adaptation and how does it relate to the environment?
3. What do you think had to happen to life through adaptation to create the many forms of life we now have?
4. What is natural selection and how does it affect evolution?
5. How does environment affect survival value?
6. How would mutation help the evolutionary process?
7. Why would man's control of the environment slow the evolutionary process?

IV. Natural Selection

A. Using the information you now have, write an explanation of how evolution and genetics would solve the following problems:

1. Giraffes originally had short necks like the horse. They ate from low branches of trees. Gradually, trees grew taller and the lower branches were higher up. What happened to give giraffes long necks?

2. An area is covered with small ponds about three to four feet apart. Fish live in these ponds. One of these ponds begins to dry up. What fish in this pond are going to be able to survive? If various ponds begin to dry up, what kind of evolutionary development is going to be necessary for the species to survive?

3. In a forest, all of the animals live on the ground. One of the species in the forest is being killed off by predators and has begun to climb the trees to avoid their enemies. What kind of natural selection is going to have to take place to keep the species going and make it better?

(NOTE: Information on section I of this outline is available in Concepts in Science, grade six, in the section on heredity. Mutation is a vital concept to the successful completion of this outline as well as a good idea of what natural selection entails.)

ADAPTATION

SUGGESTED ACTIVITIES:

1. Concepts in Science - Level 6 - Pages 338 and 339

2. Chart the pairing of genetic traits for dominance and recessiveness. Use the guinea pig example on page 342 of Concepts in Science. See charts below for examples. Note the possible outcomes of color for offsprings in the second generation. B stands for dominant trait black in color. G stands for recessive gene for color grey. The first parents are both pure bred.

1st generation

	B	B
g	Bg	Bg
g	Bg	Bg

possibilities for offspring

2nd generation

	B	g
B	BB	Bg
g	Bg	gg

possibilities for offspring

Also see Health and Growth - Level 6 - Page 256

3. Develop mutations that might be helpful in adapting to a specific environment. Concept of mutation is covered in Concepts in Science on pages 347-353.

FILMS: (County)

Darwin's Finches - Clues to the Origin of Species (C) 11 min. I-J

*Theories on the Origin of Life (C) 14 min. J-H

World is Born (C) 20 min. I-H

*Genetics and Plant Breeding (C) 17 min. J-H

*Mitosis (C) 11 min. J-C

*Thread of Life (C) 53 min. J-H

*Beginnings of Vertebrate Life (C) 11 min. J-C

*NOTE: Most films will require the signature of the principal as they are Junior High level. Family Life Education films may be incorporated into this unit if you so desire.

FILMSTRIPS:

Adaptation 4-6 2020R

Biological Communities I 4-9 1628

Biological Communities II 4-9 1629

FILMSTRIPS:

Biological Relationships 4-9 1627

Biological Succession 4-9 1630

Cell, The: Basic Unit of Life 4-12 3171C

DNA - A Key to All Life 4-12 332

Gregor Mendel 7-12 1143

Heredity 7-12 309

TEXTS:

Health and Growth - Level 6
Unit 10 discusses this topic very well.

Concepts in Science - Level 6
Excellent section in Unit 8 - Code of Heredity: Covers most of the information contained in the outline.

Discovering Science - Level 6
Some applicable information in Chapters 12 and 13. Teacher would need to supply much background.

BOOKS:

Ames, G. First people of the world. Harper, 1958.

Asimov, I. How did we find out about our human roots? Walker, 1979.

Cooper, G. Charles Darwin: voyager-naturalist. Macmillan, 1966.

Facklam, H. From cell to clone. Harcourt, 1979.

Huxley, J. Wonderful world of life. Garden City, 1959.

King, F. What is a cell? Benefic, 1961.

Life (Periodical) World we live in. Simon & Schuster, 1956.

McNeil, M. On the face of the earth. Walck, 1959.

May, J. The first men. Holiday, 1968.

Randal, J. All about heredity. Random, 1963.

Selsam, M. Around the world with Darwin. Harper, 1960.

Selsam, M. A first look at animals with backbones. Walker, 1978.

Showers, P. Me and my family tree. Harper, 1978.

ANTHROPOLOGY
THE DEVELOPMENT OF MAN

I. Define the following terms:

A. Archeology
B. Nomad
C. Domestication
D. Tribe
E. Shaman
F. Specialization
G. Agriculture
H. Anthropology

II. Adaptation of man

A. Early Man - Answer the following questions with your own reasoning and through information you can get from the library and your teacher.

1. The first men had nothing to work with except their brains. Their ability to reason gave them the most powerful tool in the animal kingdom. Early man needed four basics other than air and water to live. These basics were:

a. Food
b. Shelter
c. Clothing
d. Tools

Describe in as much detail as you can, the easiest way for early man to get food and shelter without having to invent any tools. (Hint: Throwing rocks at animals is not a very efficient way to kill animals. There's an easier way!)

2. Early man did not just sit down and invent tools to work with. He needed to have accidents with objects in his environment to discover how they could be used as tools. Develop accidental situations which will enable early man to invent the following tools.

a. Fire (Discovered from natural causes)
b. Fire (A way for man to have it any time he wants it)
c. The stone hand ax
d. The needle
e. The wooden spear
f. A stone knife
g. A stone spearhead

3. Man was initially nomadic. He had to follow the animals from area to area in order to get meat and skins for clothing. He could also use up all of the plant life in an area and have to move on. The biggest step of man was when he discovered ways that allowed him to stay in the same place and have all of his four basic requirements provided. Develop a way for the following two tribes to stop following the animals and live in one place.

II. Adaptation of man - (continued)

3. (continued)

a. A tribe which lives near the beach
b. A tribe that lives on an African Plain

III. Specialization

A. Once man had stopped following the herds of animals, he had the opportunity to begin to think about free time since he was no longer constantly involved in feeding and clothing himself. This free time gave the first chance for specialization. Describe how a few men might have specialized in the two tribes in Section II A-3.

B. Describe how specialization would lead to trade within the tribal community. Then, describe how specialization could lead to trade between the two tribes in Section II A-3.

C. Specialization and free time through the development of the stable community led to the development of one other area of major impact on man. This was the development of religion. Early man had no explanations for natural forces at work in his environment. Try and develop an early religion. Include the following sections:

a. What were the objects of worship?
b. Who were the men who controlled the religion? (Hint: Shamans)
c. What were the rituals that were practiced by the tribe?
d. How did the people know if the rituals were effective?

IV. The Bulpropensnigs (optional)

A. In this section, you have the opportunity to develop your own society of early man. You can use an imaginary tribe living in a valley with a stream running through it and surrounded by mountains. The soil is fertile. The tribe has domesticated animals and has specialized. Describe their society any way you would like to develop it, including in your description the following conditions:

1. What are the various areas of specialization?
2. What is their governmental organization? (i.e. chief, priest, governors, your choice!)
3. What are their religious beliefs?
4. What is their town or city like? (They don't live in caves anymore!)
5. Do they have more than one town of people in their society?
6. What kind of tools do they have?
7. If they have wars, explain why they fight.

For this project you might want to make a model city, showing the various areas which are vital for the community's survival. You might want to make drawings of their clothing. You might also want to develop a map of the towns in their society and how they get from one to another.

ANTHROPOLOGY

SUGGESTED ALTERNATIVE OR CONCEPT REINFORCING ACTIVITIES:

1. Prepare a mock dig site with artifacts buried in an aquarium, or sandbox for the students to dig up. Have students identify and log artifacts as to what they are, how deep they were found, with what other things they were found. Gather all artifacts and the information about them and piece together the kind of civilization that used these items.

2. Develop a simulation game for the purpose of specializing and trading. Have each member of the class specialize for himself/herself or specialize in services by class groups. Develop an economy around this trading.

FILMS:

*Dr. Leaky & the Dawn of Man (Excellent film - requires teacher preview and explanation for most benefit.) High school level - National Geographic (C) 28 min.

Archaeology - Pursuit of Man's Past (C) 15 min. I-H

The Fossil Story (C) 19 min. I-H

How Man Discovers His Past (C) 20 min. J-H

Prehistoric Man (C) 17 min. I-J

Anthropology - A Study of People (C) 17 min. I-J

Pottery Workers of Oaxaca (C) 14 min. I-J

FILMSTRIPS:

Man Inherits the Earth 6-12 22

Prehistoric Man - Dawn of Civilization 4-9 357

Mesolithic Age Today 6-12 1985

Discovery of Agriculture 6-12 24

Coming of Civilization 6-12 25

Growth of Society 6-12 1984

Stone Age People Today 6-12 23

*Principals signature required to order beyond grade level.

BOOKS:

Ames, G. First people in the world. Harper, 1958.

Baumann, H. Caves of the great hunters. Pantheon, 1954.

Boer, F. Igloos, yurts, and totem poles. Pantheon, 1957.

Dickinson, A. The first book of stone age man. Watts, 1962.

Edel, M. Story of people; anthropology for young people. Little, 1952.

Epstein, S. All about prehistoric cavemen. Random, 1959.

Horizon The search for early man. American Heritage, 1963.

Kramer, B. Cavemen of the old stone age. Melmont, 1955.

Kubie, N. First book of archaeology. Watts, 1957.

May, J. The first men. Holiday, 1968.

Mead, M. People and places. World, 1959.

Scheele, W. Cave hunters. World, 1959.

Williams, B. Let's go to an Indian cliff dwelling. Putnam, 1965.

THE DEVELOPMENT OF MAN

TECHNOLOGY

I. Define the following terms:

A. Technology
B. Machine
C. Manufacturing
D. Irrigation
E. Metallurgy
F. Domestication
G. Architecture
H. Writing
I. Transportation
J. Warfare
K. Renaissance

II. Early Man (Prehistoric to 3000 B.C.)

A. Once man had specialized within his community, advancement in technology could begin to take place. Specialization and a permanent place to live offered man the opportunity to develop his skills in specific areas. This skill development led to innovation and invention. In the areas listed below, develop some ways early man could make his culture more advanced.

1. Stone Tools
2. Fabric rather than skins of animals
3. Power
   a. Fire
   b. Domesticated
   c. Wind
   d. Water
4. Weapons
5. Agriculture
6. Metallurgy

(Remember, we are talking about early man! Don't invent steam engines, airplanes, and telephones. The time is 3000 B.C. and before.)

III. Urban Revolution (3000 B.C. to 500 B.C.)

A. At the time of the urban revolution, man began to build cities. The ancient Egyptians, Romans and Greeks had great cities in which to live. Written language had come into being, although it was limited to the priest class. Within these cities, it is obvious that not everyone was concerned with the growing or hunting for food. In the city, people created many things which they could trade for their basic needs. Trade became a major occupation. A labor force to make these items for trade was needed as well as a method for getting these products from where they were produced to the place where they were to be traded. Describe what advancements could be

III. (Continued)

A. (continued)

made in the following areas to assist trade.

1. Transportation
2. War (why would it be necessary? Hint: Think of labor)
3. Building

B. Develop some products that you think could be made for trading between 3000 B.C. and 500 A.D. Think about food, household products, tools, and machines. (You can look in the encyclopedia under "Technology" for some ideas.)

IV. Middle Ages (500 A.D. to 1750 A.D.)

A. After Christ, specialization became even more specific. Products were developed even to a finer degree. For example, a man might specialize in products for horses such as shoes, pads, collars, and stirrups. By trading these products, he could get his food, shelter, clothes and some items just for his own pleasure. Money at this time was in existence and in common use. This was a good thing due to the fact that it was hard to carry a saddle around in your pocket to trade for a loaf of bread. Write some information about the early use of money in trade and its importance.

B. After Christ, it was also very important that religion was passed from society to society. Writing was common to the priest class but books had to be printed by hand. Obviously, they were very rare and very expensive. Most books were devoted to religion and philosophy. Can you imagine copying the Bible? You can think of how important the invention of the printing press would be. Write some information on the development of the printing press.

C. War was big business then as it is now. See if you can develop some weapons that could have been used during this time. You can use drawings to help you out. Don't forget war on water as well as land.

V. Industrial Revolution (1750-1900)

A. By this time man had tremendous potential in his progress. He had little consideration for his environment. After all, for hundreds of thousands of years, the earth had been used by man and there was very little sign of his depletion of natural resources. When the industrial revolution began, tremendous changes in man's effect on the environment began to take place. Factories appeared almost overnight, belching out smoke. Mining was in full swing and war common. Man at this time had little knowledge of what the effect of all this progress would do to his world. In this section, you have been selected to go back in time to this period to describe the effect all of this progress will have on the future. Organize a campaign which you think will convince man to have environmental concern and yet not stop all of his progress.

VI. Now!

A. From 1900 to now, the greatest strides have been made in technology. Most of these strides have affected our lifestyle as well as our environment. Man is beginning to have environmental awareness but his efforts in this direction seem to be going rather slowly. Take some time to write down your thoughts about man's technological advancements from early times to the present. Give the good points and the bad points, seeing if you can come up with a solution.

TECHNOLOGY

SUGGESTED ALTERNATIVE OR CONCEPT REINFORCING ACTIVITIES:

1. Have students select specific areas to research. An example might be for a student to select the history of space flight. The history of printing would be another. They may go into these just for research or they may prepare models to show how things advanced.

2. Have students determine how technology has affected the environment and our life style. A debating team might reinforce the concepts of technological advancements.

3. Have students take the invention of the Star Trek Transporter and discuss the pros and cons of this machine. They should discuss the ramifications from the point of view of power sources, communication, and invasion of privacy.

FILMS:

Man and the Rise of Civilization (C) 19 min. J-H

Our Productive Industry (C) 10 min. J

Transportation Revolution - The Story of America's Growth (C) 21 min. I-J

We Use Power (C) 11 min. I-J

FILMSTRIPS:

Appliances and Other Things in Your Home: How They Work 4-6 3169C

Astronomy through the Ages 4-9 1190

Coming of Civilization 6-12 25

Computer Careers 6-9 2950C

Discovery of Agriculture 6-12 24

Experiments with Simple Machines 7-12 1087

Free Press: A Need to Know the News 4-8 2768C

Growth of Society 6-12 1984

How We Learn About the Past 3-6 1610

Invention of Printing 4-9 1499

Inventions that Helped Communications 6-9 1327

Inventions that Speed Communications 6-9 1326

FILMSTRIPS:

Living in a Machine Age 5-9 1292

Machines Around Us: How They Work 4-6 3168C

Man's Search for Energy 4-6 1280

Newspaper in America, The 7-12 2087R

Peter Zenger: The Struggle for a Free Press 4-9 1483

Prehistoric Man - Dawn of Civilization 4-9 357

Reading About Space 4-8 3135C

Science, Technology & Society 7-12 963

Space Travel A.D. 2000 4-9 1115

Stone Age People of Today 6-12 23

Story of Writing, The 4-9 775

Transportation: Horseback to Jet 4-12 1038

Water Pressure at Work 4-6 2722

What Makes Engines Go? 4-8 2726

Words Media and You 8-12 2686R

Work of Simple Machines 4-9 1352R

Writing - Origin and Development 7-12 1648

Your Daily Newspaper: A New Adventure for Children 3-6 2520R

BOOKS:

Adler, I. The story of a nail. Day, 1961.

Allen, A. Story of the book. Roy, 1967.

Ardley, N. Future war and weapons. Watts, 1982.

Ardley, N. Our future needs. Watts, 1982.

Ardley, N. School, work and play. Watts, 1981.

Ardley, N. Tomorrow's home. Watts, 1981.

Bains, R. Discovering electricity. Troll, 1982.

Barr, G. Young scientist looks at skyscrapers. McGraw, 1963.

Bartlett, S. A book to begin on books. Holt, 1968.

Barton, B. Building a house. Greenwillow, 1981.

Barton, M. Men and machines. Scott/Foresman, 1961.

Batchelor, J. Communication. Harcourt, 1953.

Bendick, J. Television works like this. McGraw, 1965.

Bendick, J. Space travel. Watts, 1969.

Bergaust, E. First men in space. Putnam, 1960.

Bergaust, E. The Russians in space. Putnam, 1969.

Bradley, D. The newspaper - its place in democracy. Van Nostrand, 1965.

Branley, F. A book of astronauts for you. Crowell, 1963.

Branley, F. Book of moon rockets for you. Crowell, 1959.

Buehr, W. Sending the word. Putnam, 1959.

Buehr, W. Underground riches; the story of mining. Morrow, 1958.

Burns, W.A. World full of homes. McGraw, 1953.

Cohn, A. Wonderful world of paper. Adelard, 1968.

Colby, C.B. Beyond the Moon. Coward, 1971.

Cooke, D. How books are made. Dodd, 1963.

Cooke, D. How paper is made. Dodd, 1959.

BOOKS:

Coombs, C. Coal in the energy crisis. Morrow, 1980.

Corbett, S. What makes TV work? Little, 1965.

Etling, M. Spacecraft at work. Harvey House, 1965.

Epstein, S. All about engines and power. Random, 1962.

Epstein, S. First book of printing. Watts, 1955.

Epstein, S. First book of words. Watts, 1954.

Feigenbaum, L. This is a newspaper. Follett, 1965.

Fenton, C.L. Animals that help us. Day, 1959.

Foster, G. Augustus Caesar's world. Scribner, 1947.

Foster, G. Communication. Criteria, 1965.

Foster, J. Pages, pictures and prints. Harcourt, 1958.

Friskey, M. Space shuttles. Childrens Press, 1982.

Gottlieb, W.P. Space flight and how it works. Doubleday, 1963.

Gurney, G. Americans on the Moon; the story of Project Apollo. Random, 1970.

Gurney, G. Walk in space; the story of Project Gemini. Random, 1967.

Hartman, G. Builders of the old world. Little, 1955.

Hefferman, H. The energy story. Singer, 1963.

Hogben, L. Wonderful world of communication. Garden City, 1957.

Hogben, L. The wonderful world of energy. Doubleday, 1968.

Irwin, K. Romance of writing: from Egyptian Hieroglyphics. Viking, 1956.

Kleiner, A. Robots. Raintree, 1980.

Knight, D.C. American astronauts and spacecraft; a pictoral history from Project Mercury through Apollo 13. Watts, 1970.

Kramer, B. Cavemen of the old stone age. Melmont, 1955.

Lehmann-Haupt, H. Life of the book: How the book is written. Adelard, 1957.

McClintock, M. Here is a book. Vanguard, 1939.

BOOKS:

Meyer, J. Paper. World, 1960.

Meyer, J.S. World book of great inventions. World, 1936.

Montgomery, E.R. Story behind great inventions. Dodd, 1953.

Neal, H. Communication. Messner, 1960.

Nurmberger Wonders of words. Prentice Hall, 1968.

O'Brien, R. Machines. Editors of Life, 1964.

Ogg, O. 26 letters. Crowell, 1948.

Ota, K. Printing for fun. MacDowell, 1960.

Pine, T. Simple machines. McGraw, 1965.

Pratt, F. All about famous inventors and their inventions. Random, 1955.

Price, C. Made in the middle ages. Dutton, 1961.

Rappaport, U. Story of the Dead Sea Scrolls. Harvey, 1968.

Robbin, I. The how and why wonder book of basic inventions. Wonder Books, 1965.

Robinson, C. First book of ancient Egypt. Watts, 1961.

Robinson, C. First book of ancient Rome. Watts, 1959.

Rogers, F. Painted rock to printed page. Lippincott, 1960.

Ross, F. Model satellites and spacecraft. Lathrop, 1969.

Russell, S. A is for apple and why. Abingdon, 1959.

Shapp, M. Let's find out about wheels. Watts, 1962.

Shippen, K.B. Miracle in motion; the story of America's industry. Harper, 1955.

Simon, I. The story of printing. Harvey, 1965.

Simon, M.L. Beasts of burden. Lathrop, 1954.

Spooner, M. Sunpower experiments. Sterling, 1980.

Webb, R.N. Magic of steel and oils: history, development and uses. Grossett, 1965.

BOOKS:

Wells, R. Message, men and miles. Prentice, 1958.

White, A. First men in the world. Random, 1953.

Wilford, J.N. We reach the Moon. Norton, 1969.

EARTH FORCES
THE EARTH'S PLACE IN SPACE

NOTE: This unit is designed to give you an idea of our planet Earth's place in space as it relates to location, structure and forces that affect it.

I. Define the following terms:

A. Universe
B. Galaxy
C. Solar System
D. Light Year
E. Meteor and Meteorites
F. Satellites
G. Planet
H. Orbit
I. Star
J. Comet
K. Gravity
L. Centrifugal Force
M. Solar Year
N. Constellation
O. Astronomy

II. Our Solar System

A. The Sun

1. The sun is the center of our Solar System. It is a star that provides us with heat and light. In this section, find out the difference between the following:

   a. A blue-white star
   b. A yellow star
   c. A red star
   d. A dark star

2. Our sun is a yellow star. How would our Earth's environment be changed if it had a blue-white star? A dark star?

B. The Planets

1. The nine planets are satellites that orbit the sun. They are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. Write a section in your project about each planet including the following information:

   a. Position to the sun (i.e. third from the sun)
   b. Time in earth days or years for one revolution around the sun
   c. Temperature and atmosphere (environment)
   d. Moons
   e. Size compared to the Earth
   f. Distance from the sun

2. (Optional) Since one orbit for a planet is a year for that planet, calculate your age on Mercury and then on Pluto.

II. Our Solar System - (continued)

B. Planets (continued)

3. (Optional) Since gravity is different on each planet, calculate your weight on Jupiter and then on Mars.

4. (Optional) If the sun was a ball seven feet in diameter, located in the center of Rialto, where would Pluto be located as you travel West. (Hint: 1 foot equals 120,000 miles) GOOD LUCK!

C. (Optional) Origin Theories

1. Find out as much information as you can about the following ways that some people think our solar system was formed.

a. Divine Creation
b. Dust Cloud Theory
c. Collision or "Big Bang" Theory

III. Our Galaxy

A. Our galaxy is called the Milky Way (Not the candy bar). It looks like two saucers facing one another. In order to find out the distance in length and width, we have to measure in light years. (Light travels at 186,000 miles per second!) Complete the following activities:

1. Find out approximately how many stars there are in the Milky Way.

2. Find out its length in light years.

3. Find out its width in light years.

4. What is the nearest star to us other than the sun? How far away is it in light years?

a. (Optional) How many miles away is the nearest star other than the sun? (i.e. 186,000 x 60 x 60 x 24 x 365 x # of light years away)

b. (Optional) If you could transport yourself on Super Bowl day to the nearest star other than the sun, what teams would you be watching? (Remember you're light years away)

5. Describe the motions of the Milky Way.

6. Describe three major constellations in (a) Winter Sky (b) Summer Sky.

IV. The Universe

A. The Universe is the total of all the stars, planets, galaxies, dust gases, and empty space. It goes on for infinity. It has no beginning and no end.

1. Since no one really knows what the universe is all about, write a section on what you would learn and see if you could explore the whole thing. You can make up anything you want about your journey.

Earth Forces - Place in Space

FILMS:

About Astronauts (C) 11 min. K-6

Eagle has Landed - The Flight of Apollo 11 (C) 29 min. 4-12

Early Rockets and Dreams of Space (C) 24 min. 7-12

Father of the Space Age (C) 15 min. 7-12

Flight of Apollo 15, The (C) 14 min. 7-12

How Many Stars (2nd Edition) (C) 12 min. 4-12

How We Explore Space (C) 16 min. 4-12

Mars Minus Myth (2nd Ed.) (C) 22 min. 7-12

Moonwalk (C) 40 min. 7-12

Rockets - How They Work (C) 16 min. 4-12

Satellites - Servants in the Sky (C) 21 min. 7-12

Satellites - Stepping Stones to Space (C) 18 min. 7-12

Space Age - Dr. Goddard to Project Gemini (B) 18 min. 7-12

Space Place (C) 10 min. 4-12

Spaceborne (C) 14 min. 7-12

Stars - A First Film (C) 13 min. 4-6

Stepping Stones in Space - Dr. Goddard to Project Apollo (B) 15 min. 7-12

Trip to the Moon, A (C) 17 min. 4-9

Visit to Fra Mauro, A - The Flight of Apollo 14 (B) 20 min. 7-12

What is Space (C) 11 min. 4-9

FILMSTRIPS:

Astronomy Through the Ages 4-9 1190

Beyond the Moon 4-8 1519

Beyond the Solar System 4-9 2132

Conditions in Space 7-12 1293

FILMSTRIPS:

Constellations We Can See 4-8 1350

Current Events in Space 4-9 1114

Earth, Venus and Mercury 4-9 2128

Earth's Nearest Neighbor 4-9 943

Finding Out About the Universe 4-6 1539

Flight Around the Moon 4-12 1117

Galileo 6-12 339

Gravity 4-6 1269

Gravity and Space Travel 7-12 1905

How Far is Far? 4-8 2713

How Gravity Works 4-9 1881

Introduction to the Amazing Universe, An 2-7 3104C

Looking at the Universe 4-9 2126

Maelstroms of the Air 6-12 8

Man Reaches the Moon 4-12 1848R

Mars 4-9 2129

Milky Way, The 4-9 1329

Moon, Our Nearest Neighbor 4-8 1347

Moon, The 4-9 1192

Mount Wilson and Palomar Telescopes 7-12 1147

Nebulae 7-12 1149

New Communications Era 7-12 1947R

Our Satellite the Moon 4-9 2131

Outer Planets 4-9 2130

Pictures in the Sky 4-9 946

FILMSTRIPS:

Reading About Space 4-8 3135C

Rocket Power for Space Travel 4-6 1297

Satellites 4-8 1525

Solar System 4-9 1194

Solar System 4-9 2127

Solar System and the Universe 4-9 84

Space Satellites 7-12 1295

Space Travel A.D. 2000 4-9 1115

Starry Universe 6-9 17

Stars and Galaxies 4-9 1089

Stars, The 4-9 1195

Story of Space Flight 4-9 2250R

Sun and its Family, The 4-9 944

Sun, The 4-9 1193

Today's Explorers 3-6 2862C

Understanding Our Earth and Universe 4-9 591R

Universe and Space 7-12 1219

Universe in Color 7-12 917

You and the Universe 4-9 945

BOOKS:

Ames, G. The Earth's story. Creative Ed., 1959,1967.

Adler, I. The Sun and its family. Day, 1958.

Adler, I. Time in your life. Day, 1955.

Apfel, N.H. The Moon and its exploration. Watts, 1982.

Apfel, N.H. Stars and galaxies. Watts, 1982.

Bendick, J. The shape of the Earth. Rand McNally, 1965.

Berger, M. Stars. Coward, 1971.

Branley, F.M. The Big Dipper. Crowell, 1962.

Branley, F.M. A book of the Milky Way Galaxy for you. Crowell, 1965.

Branley, F.M. A book of Venus for you. Crowell, 1969.

Branley, F.M. Gravity is a mystery. Crowell, 1970.

Branley, F.M. Rockets and satellites. Crowell, 1970.

Fitcher, G.S. Comets and meteors. Watts, 1982.

Fields, A. Stars and Planets. Houghton, 1962.

Fields, A. The Sun. Watts, 1980.

Heintze, C. Search among the stars. Van Nostrand, 1966.

Hicks, C.B. The world above. Holt, 1965.

Jay, M. The Moon. Watts, 1982.

Lampton, C. The Sun. Watts, 1982.

Lauber, P. All about the planet Earth. Random, 1962.

Lauber, P. This restless Earth. Random, 1970.

Lovell, B. Discovering the Universe. Harper, 1964.

Mathews, W.H. The Earth's crust. Watts, 1971.

Munch, T.W. What is a solar system? Benefic, 1959.

Polgreen, J. The Earth's space. Random, 1963.

Rey, H. The Stars; a new way to see them. Houghton, 1962.

Santrey, L. Discovering the stars. Troll, 1982.

BOOKS:

Slote, A. The Moon in fact and fancy. World, 1971.

Zim, H.S. Stars and Planets. Watts, 1980.

Zim, H.S. The Universe. Morrow, 1961,1973.

Zim, H.S. What's inside the Earth? Morrow, 1953.

EARTH FORCES
GEOLOGY

I. Definitions:

A. Geology
B. Mineral
C. Igneous
D. Sedimentary
E. Metamorphic
F. Volcanic
G. Core
H. Mantle
I. Crust
J. Strata
K. Fossil
L. Magma
M. Lava
N. Earthquake
O. Fold
P. Fault
Q. Erosion
R. Weathering

II. Structure and Composition of the Earth

A. The earth is divided into three major zones; the core, the mantle, and the crust. It may be compared to an egg - the core is like the soft yolk, the mantle is like the white and the hard crust is like the shell.

1. Minerals are the natural substances in the earth. Rocks are made of minerals. There are many different types of minerals.

a. List the methods by which minerals may be identified.
b. List five minerals which are useful to man and tell how each is used.

2. Rocks are made of various combinations of minerals by heat and pressure. They are given different names depending on their shape, location and history. There are three major families of rocks.

a. Igneous rocks usually have a crystalline structure. Why do they have crystals of different shapes and sizes. (Think about the cooling of the hot magma that forms igneous rocks.)

b. Sedimentary rocks are those rocks which have been formed by the sediment resulting from weathering.

i. Using Gateways to Science, pages 232-233, follow the directions to see how sediment forms. Write the results of this experiment.

ii. Using the results of your experiment on how sedimentary rock forms, imagine that you have a three feet thick section of sedimentary rock. You may find prints of animals or leaves in the rock at different places in it. Which print or fossil is older and which is younger? How can you tell? Why are fossils formed in sedimentary rock and not igneous?

c. Metamorphic rocks are igneous and sedimentary rocks changed by heat and pressure. Imagine that Superman has the following rocks to squeeze in his hand and heat with his vision. What metamorphic rocks will he make from the following igneous and sedimentary rocks?

i. Hard Coal will be changed to _____

ii. Limestone will be changed to _____

iii. Shale will be changed to _____

iv. Granite will be changed to _____

v. Sandstone will be changed to _____

III. Forces that affect the Earth's Crust

A. Earthquakes

1. Earthquakes are the movement of the Earth's crust along faults. Describe the following:

   a. Kinds of faults
   b. Movements of faults
   c. Causes of earthquakes
   d. How land is affected by earthquakes

2. Using blocks of modeling clay, show the various ways a fault can move. (Blocks of wood may be substituted.) Diagram the results for your report.

3. Using different colored layers of modeling clay, show the affects of folding by compressing both ends of the clay. Diagram the results.

4. Explain your diagrams for the above two sections.

B. Volcanoes

1. Vocanoes form along faults as a result of magma under great pressure forcing its way to the surface. Volcanoes are classified according to the materials that have accumulated around their vents. Describe the difference between the three major types.

   a. Shield Volcano
   b. Composite Volcano
   c. Cinder Cone Volcano

2. Pick one of the following volcanoes and write about its history.

   a. Krakatoa
   b. Vesuvius
   c. Etna
   d. Pelee
   e. Mauna Loa
   f. Lassen

III. Forces that affect the Earth's Crust - (continued)

B. Volcanoes - continued

3. Write a section on the "Pacific Ring of Fire" or the belt of volcanic activity on the Pacific coast. Draw a map to show this ring.

4. (Optional) Build a volcano model out of clay or papier mache. Heat some wax adding red crayons for color. Pour the hot wax down the sides of your model and watch the formations of the cooling wax. Write and diagram the results of your experiment.

C. Weathering

1. Weathering is the wearing away of the earth's crust by the forces of wind, water, temperature, plants and animals. Describe the effects of weathering by each of the above forces. You may prepare diagrams, models and experiments to show the effects.

SUGGESTED ACTIVITIES:

1. Check local newspaper for rock and mineral shows held in the area.

2. Invite rock and mineral club members to speak to your class.

3. Take a field trip to the Colton or Riverside cement plants.

4. Obtain Geodetic Survey Maps from the United States Department of the Interior - Geological Survey. Relief Maps of the San Bernardino Area can be purchased from the Army Map Service, Army Corps of Engineers, San Antonio, Texas.

5. Take a field trip to the San Bernardino County Museum to see their section on geology and fossils.

6. Make a class rock collection. Name and classify the rocks, referring to books, sample rock collection, or a high school science teacher or cross-ager to help. Identify minerals using the hardness test.

Scratch Test for Hardness

Hardness rating	Example of rock	Test
1	talc	Will crease and crumble from a fingernail scratch.
2	gypsum	Will not scratch a fingernail but will crease a piece of chalk.
3	calcite	Will just scratch a fingernail, easily mark #1 or #2. Will not scratch copper.
4	fluorite	Will scratch a piece of copper.
5	apatite	Will not scratch glass, easily scratches copper.
6	orthoclase	Will just scratch window glass, will not scratch a knife blade or special glass like pyrex.
7	quartz	Will scratch a knife blade or special glass.
8	topaz	
9	corundum	Only diamond or special steel
10	diamond	will scratch

Let's try a few ourselves, see how scientific we are!

7. Take a trip to see the San Andreas Fault and the rock weathering in the Cajon Pass and Blue Cut, near Devore.

8. Maps are also obtainable from the U.S. Dept. of Agriculture - Forest Service and the Automobile Club of America of the mountain areas and fault areas.

Earth Forces - Geology

FILMS:

The Earthquake (C) 14 min. 1972 4-12

Earthquakes and Volcanoes (C) 12 min. 1977 4-9

Earth's Changing Surface (C) 1961 4-9

*Eruption of Kilauea, 1959-60 (C) 28 min. 1961 9-C

*Glacier on the Move (C) 11 min. 1973 7-12

Great Lakes - How they were formed (C) 11 min. 1951 4-12

Hawaiian Islands - Their Origin and Nature Today (C) 10 min. 1951 4-9

Rocks and Minerals (C) 13 min. 1977 4-6

Rocks that Form on the Earth's Surface (C) 16 min. 1964 4-9

Rocks that Originate Underground (C) 23 min. 1966 4-9

*Principals signature is required to order beyond grade level.

FILMSTRIPS:

Discovering Fossils 4-12 1184

Discovering Rocks and Minerals 4-9 2016R

Drifting Continents 5-12 2659C

Earth Science: Volcanoes 4-9 1650C

Fossils: Traces of the Past 4-6 3186C

How Soil is Formed 4-6 1281

Hunting Fossils 4-9 751

Junior Geologist, The 4-9 1553R

Mount St. Helens: A Volcano Erupts 4-6 3119C

New Oceans 4-6 2662C

Our Changing Earth 4-12 2450R

Powers of Nature 4-12 2313R

Rocks and Soil 4-6 2719

Mount St. Helens and the Volcanic Cascades 4-9 3150C

FILMSTRIPS:

Story of Soil 4-9 1918

Volcano Country of Northern California 6-12 1919

Volcanoes 6-12 1777R

Volcanoes 4-9 1285

Volcanoes, Pt. 1 4-9 2330

Volcanoes, Pt. 2 4-9 2331

Volcanoes and Earthquakes 4-9 748

World of Internal Forces 4-9 739

TEXTS:

Discovering Science - Level 6 - Chapters 8 and 9

Elementary School Science and How to Teach It - Chapters 7A and 7B

Fossils Golden Nature Guide

Rocks and Minerals Golden Nature Guide

Sourcebook for Elementary Science - Chapter 8

Water, Riches or Ruin

BOOKS:

Ames, Gerald. The earth's story. Creative Education, 1961.

Buehr, Walter. Volcano. Morrow, 1962.

Evans, Eva Knox. The dirt book. Little, 1969.

Galt, Thomas. Volcano. Scribner, 1946.

Iacopi, Robert. Earthquake Country. Lane, 1971.

Irving, Robert. Volcanoes and earthquakes. Knopf, 1962.

Lauber, Patricia. The restless earth. Random, 1970.

Matthews, William. The earth's crust. Watts, 1971.

May, Julian. Why the earth quakes. Holiday House, 1969.

Pearl, Richard. Wonders of rocks & minerals. Dodd, 1961.

BOOKS:

Poole, Lyne. Volcanoes in action. McGraw, 1962.

Pough, Frederick. All about volcanoes and earthquakes. Random, 1953.

Poynter, Margaret. Volcanoes, the fiery mountains. Messner, 1980.

Radlauer, Ruth. Volcanoes. Childrens, 1981.

Selsam, Millicent. Birth of an island. Harper, 1959.

Stone, A. Harris. Rocks and rills. Prentice-Hall, 1967.

Vaughn, Jackson. Mountains of fire. Hastings-House, 1962.

Wyckoff, Jerome. The story of geology. Golden Press, 1960.

Zim, Herbert. Rocks and minerals. Simon and Schuster, 1957.

WILDLIFE PROBLEMS AND PROTECTION

I. Definitions:

A. Extinction
B. Endangered Species
C. Relationship
D. Habitat - Life Zones
E. Interdependence
F. Encroachment
G. Preservation
H. Refuge
I. Natural Selection
J. Ecology
K. Wildlife Management
L. Adaptation
M. Predator
N. Prey
O. Carnivorous
P. Herbivorous
Q. Omnivorous

II. Requirements for Survival

A. All wildlife has basic needs for survival. These needs are food, shelter, water, air, means of protection, and a specific environment. Complete the following chart by determining the needs of the animals listed.

	Food	Shelter	Means of Protection	Environment
Squirrel				
Wolf				
Rattlesnake				
Seal				
Bird				

B. The Bandersnatch

1. The Bandersnatch is an imaginary animal. He has all of the basic needs of any other animal. His basic diet is penquin. In this section, explain how you think the Bandersnatch will fulfill his needs.

   a. Environment - Where his lives
   b. How does he catch and kill the penquins?
   c. What does he look like? (Draw a picture if you want to)
   d. Who are his enemies?
   e. Describe a day in the life of a Bandersnatch.

2. How would the Bandersnatch <u>adapt</u> to survive in the desert?

III. Nature's Self Control

A. Nature, when not interfered with by man, has a means to sustain the organisms that live within a specific environment. <u>Natural Selection</u> is one of the conditions which helps a species survive and improve.

1. Describe the process of natural selection and give an example case.

2. Describe how different animals have an <u>interdependent relationship</u> to enforce the natural selection process. (i.e. Coyote to rabbit, lion to antelope, mountain lion to deer)

3. Describe why the predator-prey condition is a positive situation rather than a negative one.

III. Nature's Self Control - (continued)

B. Environmental changes

1. The chapparal is a life zone which provides the basic needs for rabbits and other small animals. It also supports the coyote. Lightning starts a fire in the area and eliminates the environment.

a. Describe how the small animals and the coyote were dependent on the chapparal.
b. How are those animals who are not "crispy critters" affected by the fire? Be specific!
c. If the animals move to a similar environment, how are the animals that already live in the environment affected by all the new animals moving into their area because of the fire? Discuss this question in terms of:

i. Food supply
ii. Shelter
iii. Water
iv. Space
v. All life in the area

IV. Man's Influence and Control on Wildlife

A. The many encroachments of man upon life zones of wildlife have altered the conditions and relationships in the zones. Describe possible changes that could take place because of the following conditions:

1. Lumbering
2. Hunting
3. Fishing
4. Pest Control (Insects)
5. Recreational Areas
6. Pollution
7. Human population expansion

B. In the past, there was a bounty (look it up) placed on coyotes because of their preying upon sheep. Describe what affect a major reduction of the coyote population would have on the following:

1. The chapparal
2. The small animal population
3. The farmer's crop

C. Endangered species are animals that have come close to extinction due to man's encroachment. Describe how the following species became extinct or endangered.

1. The buffalo (endangered)
2. The brown pelican (endangered)
3. The bald eagle (endangered)
4. The whooping crane (endangered)
5. The passenger pigeon (extinct)

IV. Man's Influence and Control on Wildlife - (continued)

D. Man has made contributions to the welfare of wildlife in many ways. Describe how man is <u>preserving</u> wildlife through the following ways:

1. Education and Animal Research
2. Laws
3. Wildlife refuges
4. Fish Hatcheries and Fish Ladders
5. Animal Relocation
6. Selected Breeding
7. Hunting
8. Pollution Controls

WILDLIFE PROBLEMS AND PROTECTION

SUGGESTED ACTIVITIES:

1. Discovering Science 5. Pages 331-332. "Using Your Ideas"

2. Modern Elementary Science 6. Pages 16-95. Many optional activities are suggested both for teacher and students.

3. Do Research Project on Coyote. Contact Gene Cardiff, Curator Natural History Section at San Bernardino County Museum.

4. Capture wild animals using live capture traps. Contact Robert Sanders at San Bernardino County Museum. He will freeze and exhibit them in wild animal displays.

FILMS:

Africa's Vanishing Wildlife (C) 15 min. I-J

Adaptation in Animals (C) 16 min. J-H

Adaptations for Survival - Mammals (C) 13 min. I-J

Camouflage in Nature Through Form and Color Matching (2nd Edition) (C) 11 min. I-J

Camouflage in Nature Through Pattern Matching (2nd Edition) (C) 11 min. I-J

*The Cave Community (C) 13 min. H-C

Ecology - The Relationship of Plants and Animals to Their Environment (C) 22 min. I-H

Nature's Half Acre (C) 33 min. P-I

A Stream Environment (C) 9 min. I-J

Environment - Everything Around Us (C) 13 min. I

*Principal's signature required to order beyond grade level.

FILMSTRIPS:

Animals - A Close-up Look K-12 2334C

California Nature Series 4-12 3027C

Coyotes and Other Prairie Animals 5-9 570

Desert Animal Life 2-9 828

FILMSTRIPS:

Ecology: Interrelationships in Nature 4-9 3127C

Endangered Species 7-9 2468C

John Muir: Conservation 3-9 3132C

Kingdom of the Animals 3-12 2165R

Mammals of the Tropical Forests 4-12 1128

Our Wild Friends: It's Not Too Late to Care 4-8 3142C

Prairie Dogs 4-12 1129

Saving Our Wild Life 2-6 1886

Southern Bald Eagle: An American Symbol May Perish 4-8 2143C

Vanishing Animals of North America 5-12 2683C

We Care About Eagles 4-12 3190C

Whale: Hunted Giants of the Sea 4-8 3144C

Wildlife 4-9 1996

World of Endangered Wildlife 4-12 2398C

TEXTS:

Discovering Science - Level 5 - Unit II
Good overall discussion of topic, see pp. 308-312, 324-332 for environment, adaptation, changes by man and conservation.

Modern Elementary Science - Level 6 - Unit I
Excellent section; much data and covers most of the information contained in the outline.

Discovering Science - Level 4 - Unit 10
Entire unit is good, especially on relationship, interdependence, preservation, carnivorous, herbivorous.

A Sourcebook for the Biological Sciences (2nd Edition) Chapters 10 & 11
Helpful background information for teacher in preparation for instruction.

Outdoor Education Sourcebook (Rialto Unified School District_
Several teacher-optional mini-course units.
The Social Studies and Our World - Level 6, Chapter 21, Pages 383-386.
Page 388.

BOOKS:

Allen, R.P. Giant golden book of birds. Golden, 1962.

Arnold, C. Five nests. Dutton, 1980.

Bronson, W.S. Coyotes. Harcourt, 1946.

Buck, M.W. Where do they go in Winter? Abingdon, 1968.

Burton, R. Seals. McGraw, 1978.

Carson, R. Silent Spring. Houghton, 1962.

Colby, C.B. Wildlife in our National Parks. Coward, 1965.

Cole, J. A bird's body. Morrow, 1982.

Cruickshank, H. Wonders of the bird world. Dodd, 1956.

Darling, L. Seals and walruses. Morrow, 1955.

Earle, O.L. Paws, hoofs and flippers. Morrow, 1954.

Earle, O.L. Squirrels in the garden. Morrow, 1963.

Ertel, J. Adventures of a squirrel. Britannica, 1962.

Fichter, G.S. Poisonous snakes. Watts, 1982.

Fisher, R.M. Animals in winter. National Geographic, 1982.

Freedman, R. Animal architects. Holiday, 1971.

Freedman, R. When winter comes. Dutton, 1981.

Friendly, N. Wildlife teams. Prentice, 1963.

Gates, R. True book of Conservation. Childrens Press, 1959.

Green, I. Wildlife in danger. Coward, 1960.

Hess, L. Rabbits in the meadow. Crowell, 1963.

Ipsen, D.C. Rattlesnakes and scientists. Addison Wesley, 1970.

Kane, H.B. Wings, legs, or fins. Knopf, 1965.

Lavine, S.A. Strange partners. Little, 1959.

Laycock, G. America's endangered wildlife. Norton, 1969.

Laycock, G. Never pet a porcupine. Norton, 1965.

BOOKS:

Laycock, G. Wildlife refuge. Natural History, 1969.

McClung, R.M. Buzztail: the story of a rattlesnake. Morrow, 1958.

McClung, R.M. Screamer: last of the Eastern panthers. Morrow, 1964.

McClung, R.M. Shag (Bison). Morrow, 1960.

Mannheim, G. Touch me, touch me not. Knopf, 1965.

Mason, G.F. Animal homes. Morrow, 1947.

Mason, G.F. Animal tools. Morrow, 1951.

Miracle, L.A. That cougar is a puma. Putnam, 1966.

Ross, E.S. Camouflage in nature. Childrens Press, 1968.

Russell, S.P. About saving wildlife for tomorrow. Melmont, 1960.

Sarasy, P. Winter-sleepers. Prentice, 1962.

Selsam, M.E. How animals eat. Scott, 1955.

Selsam, M.E. How animals tell time. Morrow, 1967.

Shaftel, G. The wildlife story. Singer, 1963.

Simon, H. Snakes: the facts and the folklore. Viking, 1973.

Urquhart, J.C. Animals that travel. National Geographic, 1982.

Van Wormer, J. Squirrels. Dutton, 1978.

Verite, M. Animals how they live. Grosset, 1959.

Vevers, G. Animals of the Arctic. McGraw, 1964.

Zim, H.S. Snakes. Morrow, 1949.

ECOSYSTEMS
BALANCE OF NATURE

I. Definitions

A. Ecosystem
B. Balance of Nature
C. Interdependence
D. Community
E. Habitat
F. Predator
G. Prey
H. Food Chain
I. Life Cycle
J. Population
K. Symbiosis
L. Dependence
M. Competition
N. Biome
O. Consumer
P. Carnivore
Q. Herbivore
R. Producer
S. Territory
T. Environment
U. Decomposer

II. Interdependence of Plants and Animals

A. The Life Cycle might be considered the basis or foundation of the Balance of Nature. Plants and animals have the same cycle and help each other both in life and in death. Describe and diagram the Life Cycle and explain how it helps living things.

B. All living things need sources in their environment to maintain them. Find out the needs of the following for their survival.

1. Green plants
2. An herbivorous animal
3. A carnivorous animal
4. An insect

(Don't forget that all four of these things need each other in some ways)

C. A man from Mars has landed in your backyard and has agreed to take you on a visit to Mars if you will explain or show him how life on Earth is interdependent. Using words, specific examples (i.e. Cow to grass), diagrams and pictures, explain the following:

1. How plants are dependent on plants
2. How plants are dependent on animals
3. How animals are dependent on animals
4. How animals are dependent on plants
5. How plants and animals are dependent on insects

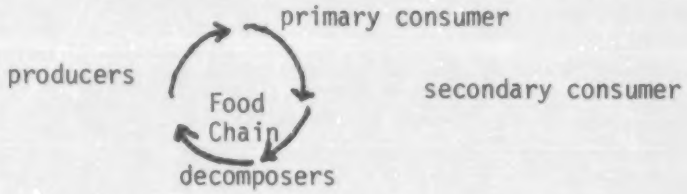
III. Ecosystems

A. An ecosystem is a group of living things living together in a community or biome that is in balance. All of the organisms living in the community are dependent upon one another. Explain the function of each of the following:

1. Decomposers
2. Producers
3. Primary Consumers
4. Secondary Consumers

III. Ecosystems - (continued)

B. All ecosystems must have the four members of the community to create a balance (decomposer, producer, primary and secondary consumers). The food chain is the sequence or order in which the members of an ecosystem feed on one another. Using the following chart, illustrate and explain a specific food chain either on land or in water.



C. Our friend from Mars liked your explanation and has taken you to his planet. Upon arrival in the Martian environment, you have discovered that the food chain pattern is similar there. Martians tell you the names of the following four creatures:

1. A Glorp (decomposer)
2. A Snid (producer)
3. A Filp (primary consumer)
4. A Stobor (secondary consumer)

Now that you have returned to Earth, you are going to write and illustrate this ecosystem on Mars. In your report, describe and include the following:

1. What is the environment (biome)?
2. What do they look like?
3. How do they interact with one another?
4. How are they interdependent?

You may draw a map of their community and give detailed information about their behavior.

IV. Disruptions in the Balance of Nature

A. Ecosystems are greatly dependent upon the very careful balance of the four members in them. If the balance is disturbed, drastic changes take place within the ecosystem. Describe what would happen under the following conditions:

1. All the decomposers are eliminated
2. Producers are destroyed by fire
3. Overpopulation of an area by secondary consumers
(Include the effects on the other members)

B. Man is the animal that most frequently disrupts the balance of nature. Describe as many ways as you can that man disrupts the following:

	Disruptions by Man
Decomposer	
Producer	
Primary Consumer	
Secondary Consumer	

IV. Disruptions in the Balance of Nature - (continued)

C. You and your people live on an island which has never been visited by any other people. The island is a perfectly balanced ecosystem which includes man. One day a ship appears on the horizon. You have been discovered by a famous explorer who plans to bring groups of tourists to the island. He/She decides to build condominiums, an amusement park and a zoo with the animals of the island. He/She intends to use the resources of the island to build this project.

1. Describe how the project might affect the balance including:

a. population of tourists
b. use of the natural resources
c. the four members of the biome

Using the map provided, you and your village must develop a way for the project to work without upsetting the balance of nature. (You may reduce the four members but you must keep them in balance.) Design the project by building models, diagrams and proposals which might work.

FILMS:

Ecology - The Relationship of Plants and Animals to their Environment. (C) 22 min. 4-12

Ecosystem, An - A Struggle for Survival (C) 22 min. 7-12

Endangered Animals - Will They Survive? (C) 24 min. 7-12

Environment, The - Everything Around Us (C) 13 min. 4-6

Meadow, The - An Ecosystem (C) 13 min. 4-6

Our Wilderness (C) 10 min. 4-9

Plants and Animals Depend on Each Other (C) 12 min. K-6

Plants and Animals Share Space and Food (C) 10 min. 4-6

Symbiosis (C) 10 min. 7-12

What is Ecology? (C) 21 min. 7-12

FILMSTRIPS:

ABC's of Environment 4-8 2614C

Adaptation 4-6 2020R

Diversity in Nature 4-6 2018R

Ecological Systems - Group I 4-12 1599

Ecology: Interrelationships in Nature 4-9 3127C

Environment K-6 2382C

Exploring Ecology 4-12 2524R

Four Biomes 4-12 2990C

How Living Things Depend on Each Other K-6 3196C

Interrelationship 4-6 2019R

Introduction to Ecology 4-9 1626

John Muir: Conservation 3-9 3132C

Man & Ecology 4-9 1631

Pollution: Problems & Prospects 5-12 2885C

Share of the Sun, A: The Food Chain 4-6 3090C

Ecosystem - Balance of Nature

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Bently, L. Plants that eat animals. McGraw, 1967.

Clemons, E. Tide pools and beaches. Knopf, 1964.

Cobb, V. Lots of rot. Lippincott, 1981.

Eeckloudt, J. A butterfly is born. Sterling, 1960.

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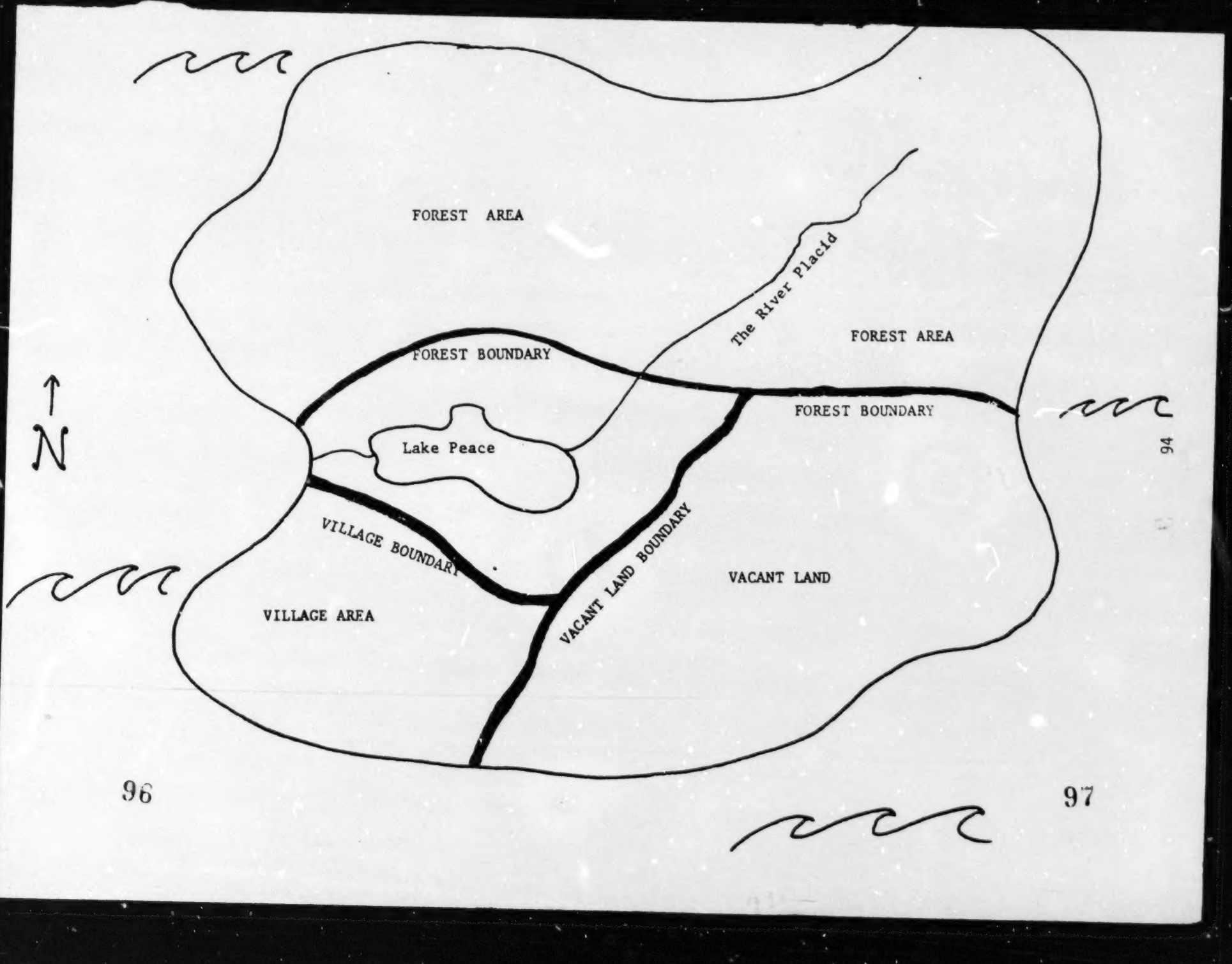
Selsam, M. See through the jungle. Harper, 1951.

Webber, I. Thanks to trees. Scott, 1952.


FOREST AREA
The River Placid
FOREST AREA
FOREST BOUNDARY
FOREST BOUNDARY
N
Lake Peace
VILLAGE BOUNDARY
VACANT LAND BOUNDARY
VACANT LAND
VILLAGE AREA
94
96
97